Net-Ready Key Performance Parameter

LTC Tom Gaetjen

J6

Agenda

- Set Stage
- IER Approach
- Net Ready Approach
- Net Ready Key Performance Parameter (NR KPP)
  - Net-Centric Operations and Warfare (NCOW) Reference Model
  - Integrated Architectures
  - Key Interface Profiles
  - Information Assurance
- Program migration to the NR KPP (examples)
- NR KPP status
- Complimentary and Corresponding Systems

Revised DODD 5000.1, DODI 5000.2 and DOD 5000.2R - USD-AT&L

DODD 4630.5 & DODI 4630.8 - OASD-NII

Capabilities

CJCSI 3170 (J8)

- Capability Validation Process/Procedures
- ICD, CDD, CPD Format
- NET READY KPP

CJCSI 6212 (J6)

- Interoperability and Supportability Certification and Testing
- Methodology for Net Ready KPP Development /Validation

Acquisition

Information Support Plan (OASD-NII)

Operational/Systems/Technical Architecture Infrastructure Support

Process

Testing

TEMP

Systems specs accurately reflect requirements and acquisition documents

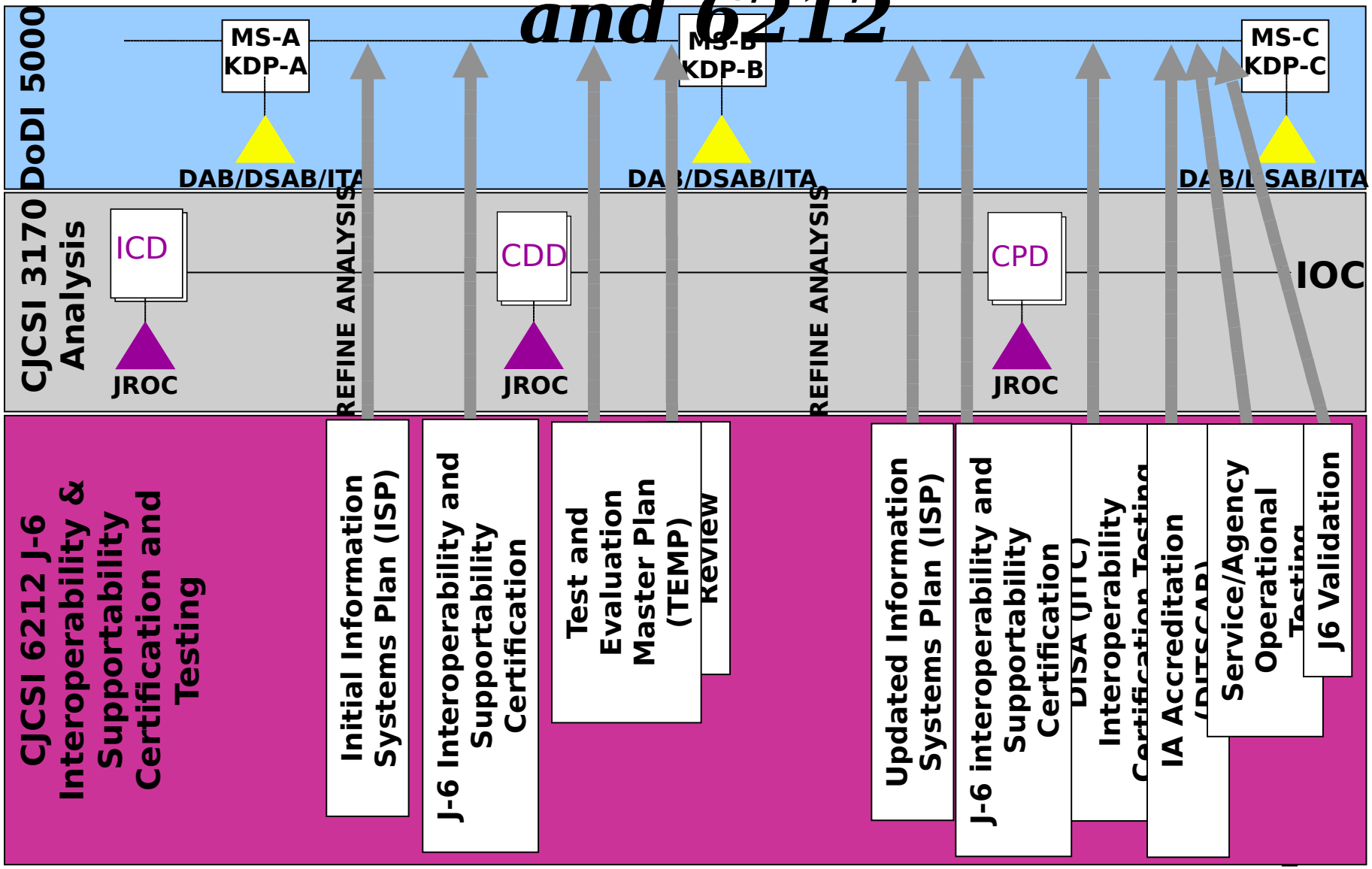
Service/Agency Testing

- DT/Standards Conformance
- OT&E
- Interoperability Testing

DISA(JITC) Interoperability Test Certification

J-6 Interoperability System Validation

Sync – DoDI 5000 &CJCSI 3170 and 6212



Interoperability KPP Today

Top-level IERs will be used as the basis to develop interoperability KPPs. The interoperability KPP definition will include that all top-level IERs will be satisfied to the standards specified in the threshold and objective values.

Typically the threshold criterion for the interoperability KPP will be 100 percent accomplishment of the critical top-level IERs, and the objective criterion for the interoperability KPP will be the accomplishment of all top-level IERs.

Interoperability KPP	Threshold (T)	Objective (O)
All top-level IERs will be satisfied to the standards specified in the Threshold (T) and Objective (O) values.	100% of top-level IERs designated critical	100% of top-level IERs

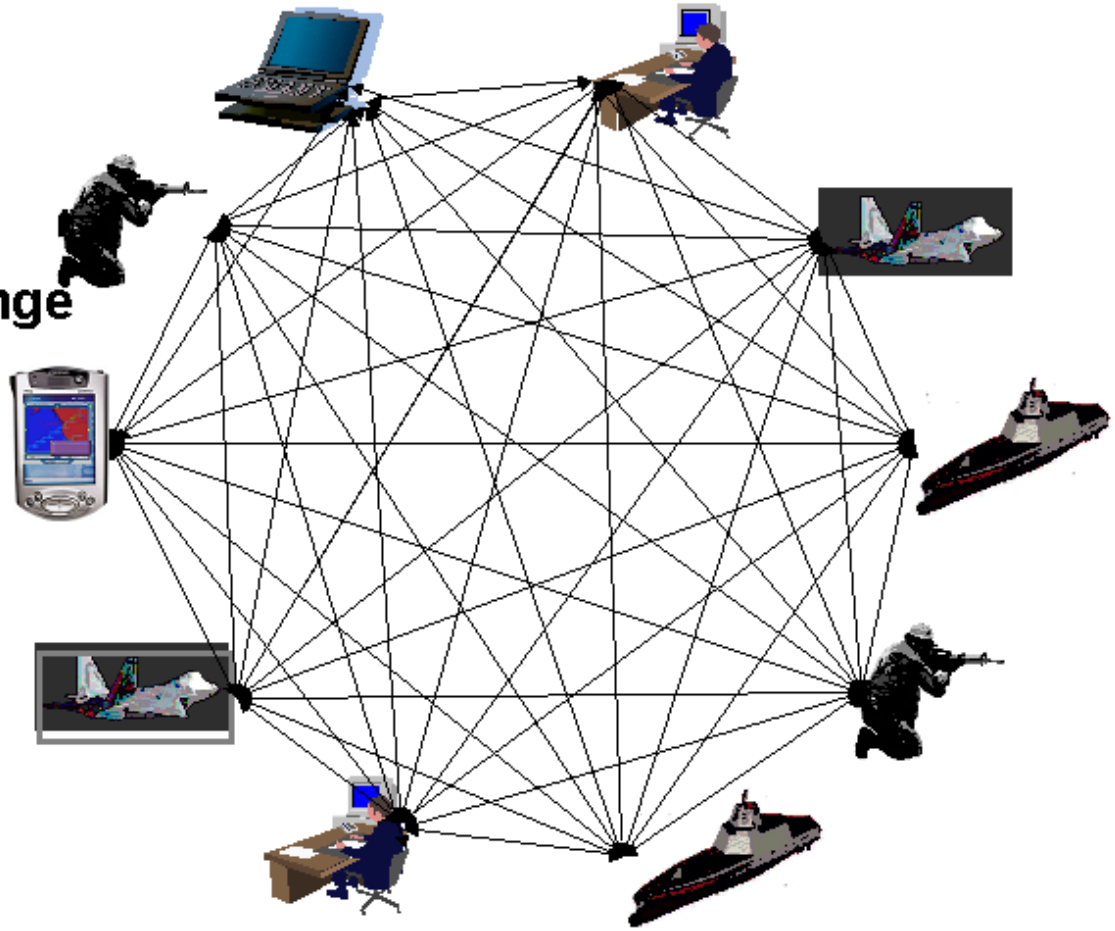
(CJCSI 6212.01B)

Problem: IER Scalability

One-to-One

Current Interoperability KPP centers around one DoD architectural view (OV-3) that contains "Information Exchange Requirements" (IERs)

- One-to-one relationship (point-to-point)



This example: 10 systems

IERs 10(9-1) = 90

CLASSIFICATION (U)

CLASSIFICATION (U)

(OV-3) –Notional USCENTCOM Targeting Extract

* Identifier/ Name of Operational Needline Supported (from OV-2)	* Identifier/ Name of Information Exchange	Nature of Transaction								Purpose/ Triggering Event	Information Source		Information Destination	
		* Mission/ Scenario	Language (For Multi-National Operations)	* Description (Content)	Size	Units	* Media	Collaborative (Y/N)?	LISI Level Required		* ID of Producing Node (facility or logical node)	* ID/ name of Producing Activity	* ID of Receiving Node (facility or logical node)	* ID/name of Receiving Activity
1	WOC-AOC	Targeting	Eng.	BDA Reports	1-10 pgs	.5-2 MB	.doc .jpg .mpg .ppt .cgm	Y	2a	Air Strike 072200 0615am	XXXth TFW	WOC	609 AIS	AOC
	WOC-AOC	Targeting	Eng.	Target Nominations	1 pg	20KB	.doc	N	1b	ATO XXX 072300	XXXth TFW	WOC	609 AIS	AOC
2														
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
n	MAW-AOC	Targeting	Eng.	BDA Reports	1-10 pgs	.5-2 MB	.doc, .ppt .jpg, .cgm .mpg	Y	2a	Air Strike 072200 0615am	VMF XXX	MAW	609 AIS	AOC

Note: All values shown above are notional.

Solution: The Net-Ready Approach

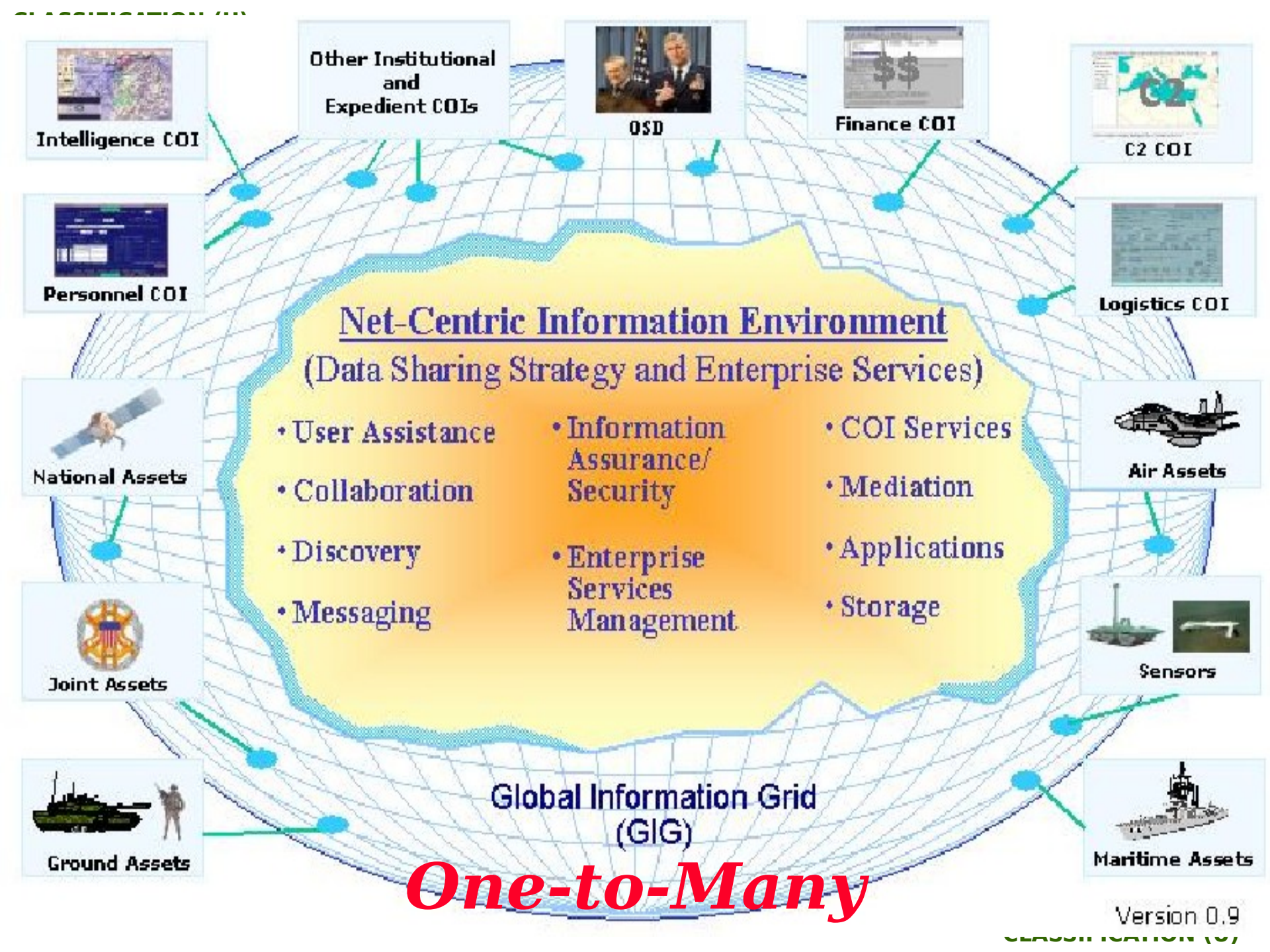
One-to-Many

Net Ready approach centers on central network:

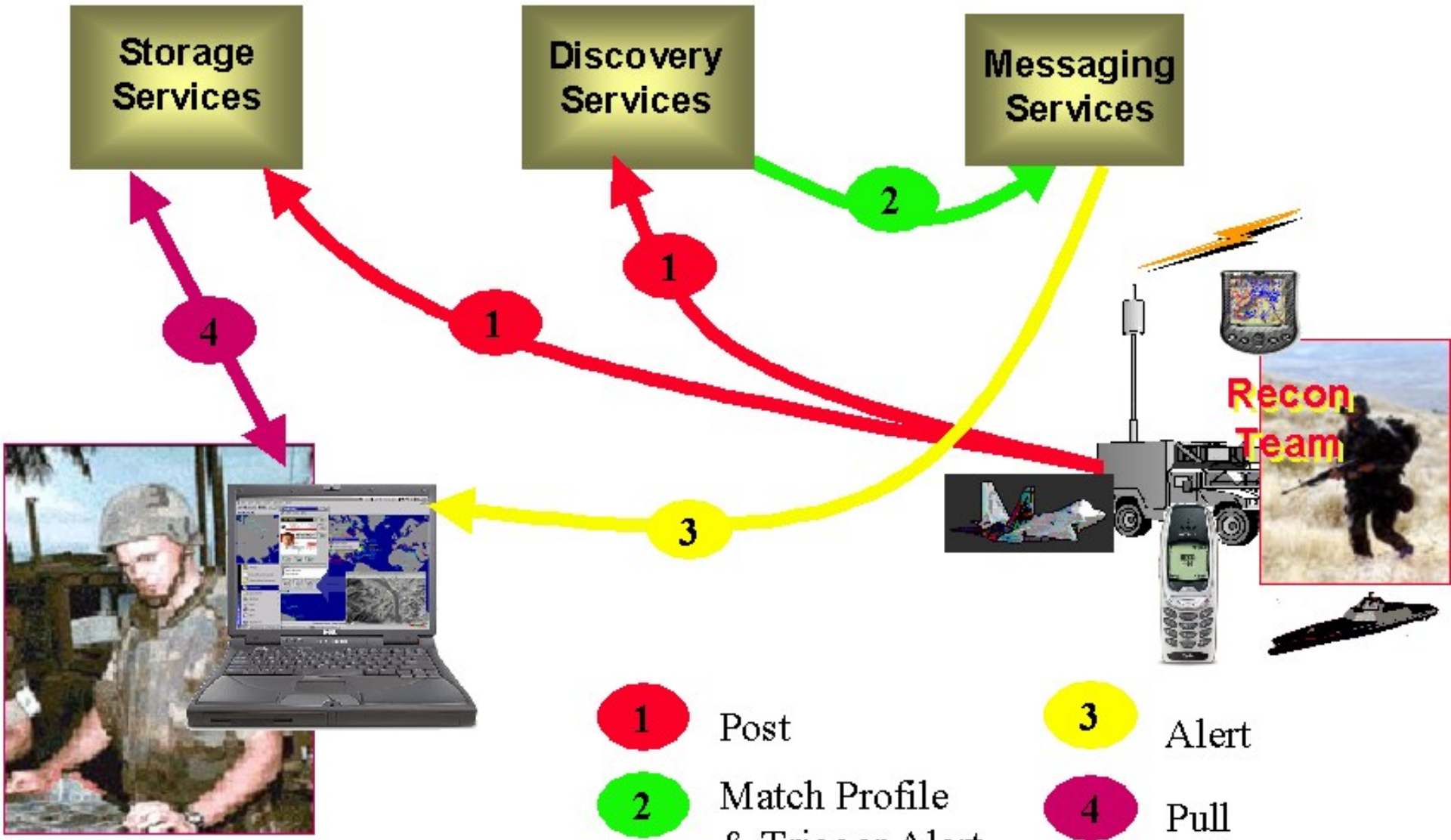
- **Focus on organizational contributions and consumption of information**
- **One-to-network paradigm**

This example: 1 system has to deal 1 interface

CLASSIFICATION (U)

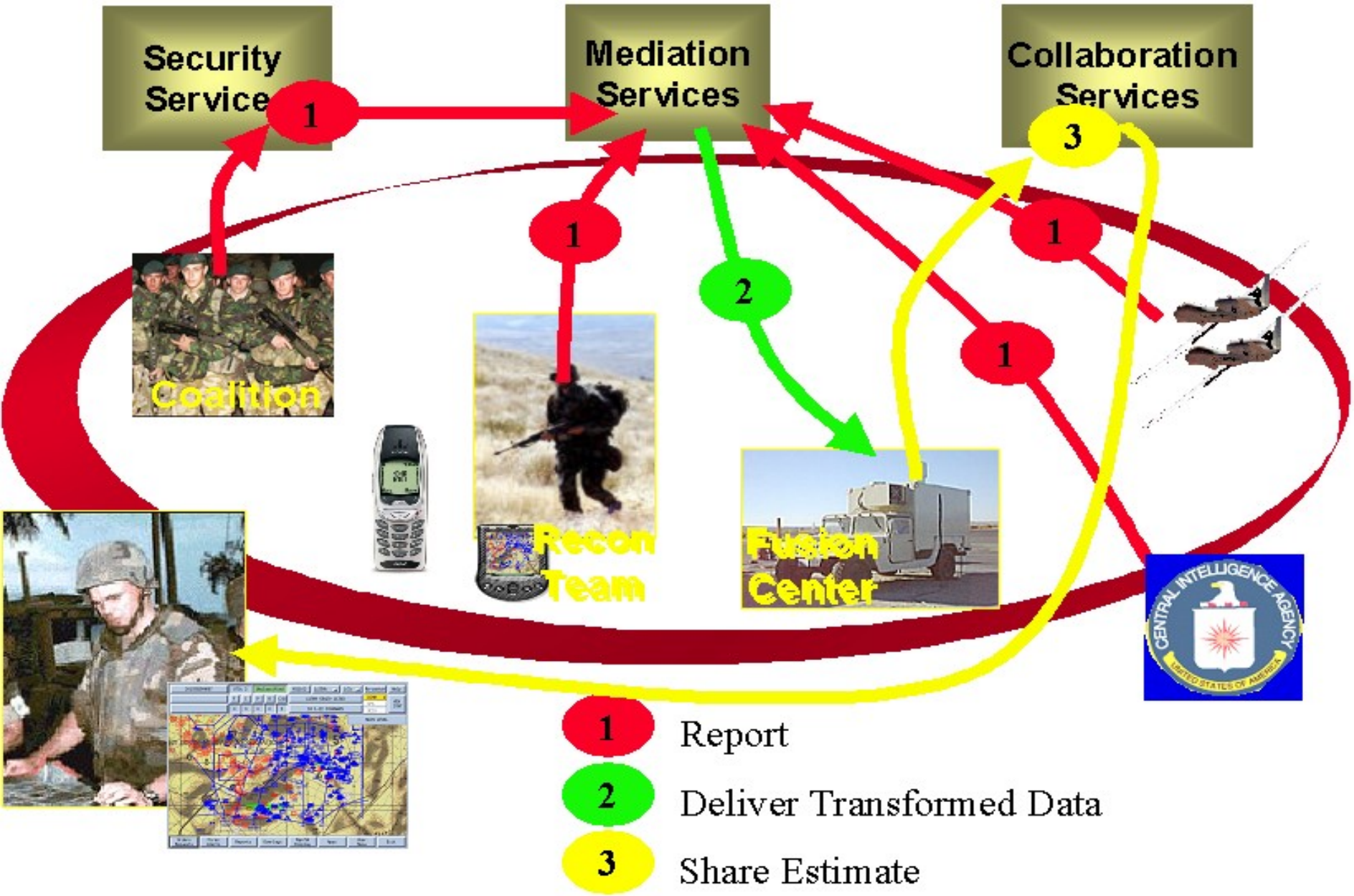

Intelligence COI
Other Institutional and Expedient COIs
OSD
Finance COI
C2 COI
Personnel COI
Logistics COI
Net-Centric Information Environment
(Data Sharing Strategy and Enterprise Services)
• User Assistance
• Collaboration
• Discovery
• Messaging
• Information Assurance/ Security
• Enterprise Services Management
• COI Services
• Mediation
• Applications
• Storage
National Assets
Air Assets
Joint Assets
Sensors
Ground Assets
Maritime Assets
Global Information Grid
(GIG)
One-to-Many
Version 0.9

How GES/NCES works



CLASSIFICATION (U)

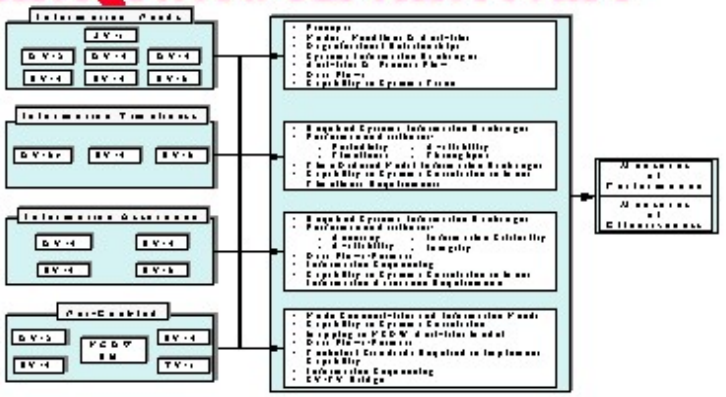
How NCES works (Cont'd)



Net-Ready KPP

NCOW RM Compliance

Integrated Architecture



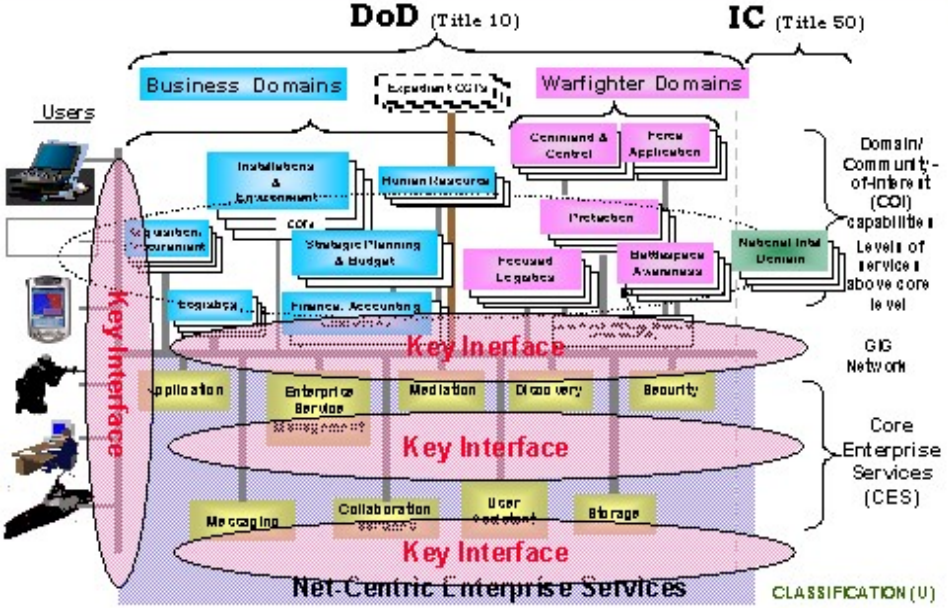
KIP Compliance

CLASSIFICATION (U)

Information Assurance (DITSCAP*)

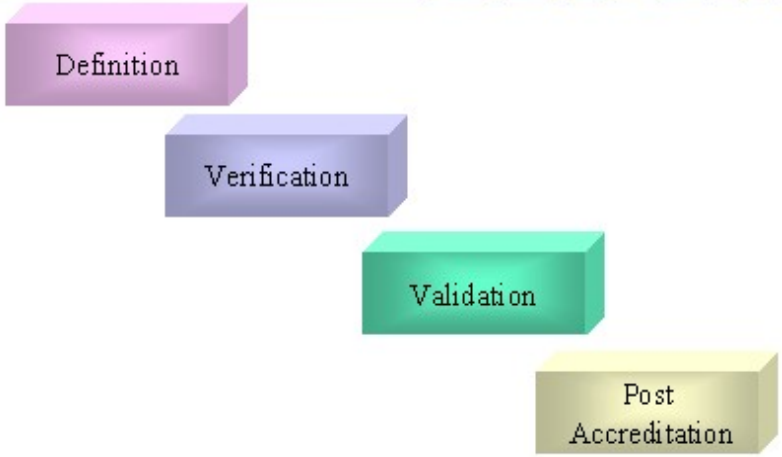
CLASSIFICATION (U)

GIG Enterprise Services Vision



CLASSIFICATION (U)

Information Assurance



*DoD Information Technology Security Certification and Accreditation Process

CLASSIFICATION (U)

Why Build a Reference Model?

- ✓ **Provide Program Managers (the target audience) acquisition guidance on what to make contractually binding beyond the *Joint Technical Arch (JTA).***
  - **Provide immediate utility without time-consuming analysis of the DoD Enterprise Architecture (GIG Architecture Versions 1 and 2)**
  - **Overcome difficulty of relating and applying a broad Enterprise Architecture to specific programs.**
- ✓ **Provide common net-centric architectural constructs congruent with the DoDAF.**
- ✓ **Establish a common language and taxonomy for NCOW concepts.**
- ✓ **Demonstrate and promote the TPPU Vision.**
- ✓ **Focus the GIG Arch compliance requirement**
- ✓ **Support evolution of the *DoD Architecture Framework* and the *JTA***

Building the Model is a collective DoD effort

Reference Model Version 1.0 Content Approved Dec 03

Overview and Summary Information AV-1

NCOW REFERENCE MODEL
OVERVIEW AND SUMMARY INFORMATION

1. **Identification**
   Name: NCOW Reference Model BETA 2.0
   Architect: OASD(NII), A&I
   Organizations Involved:
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxx
   When Developed:
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxx
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxx
2. **Purpose**
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxx

Version 1.0

Version 0.9

BETA 2.0

BETA 1.5

BETA 1.0

Integrated Dictionary AV-2

NCOW REFERENCE MODEL
INTEGRATED DICTIONARY

Kangaroo:
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxx

xxxxx:
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxx

xxxxx:
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
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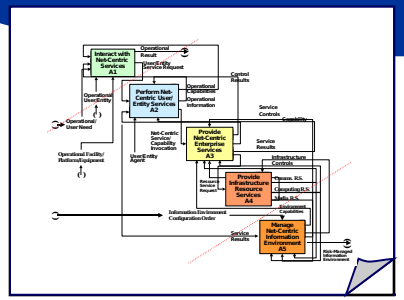
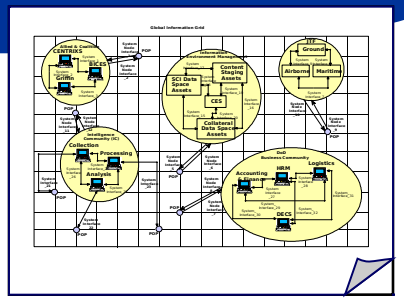
NCOW REFERENCE MODEL DATABASE

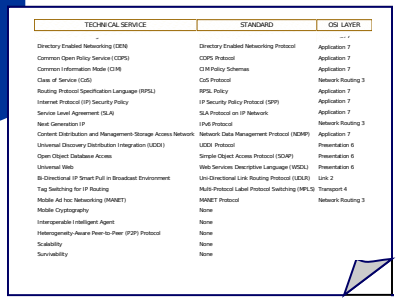
High-Level Operational Concept Graphic OV-1



Activity Model and Activity Decomposition OV-5



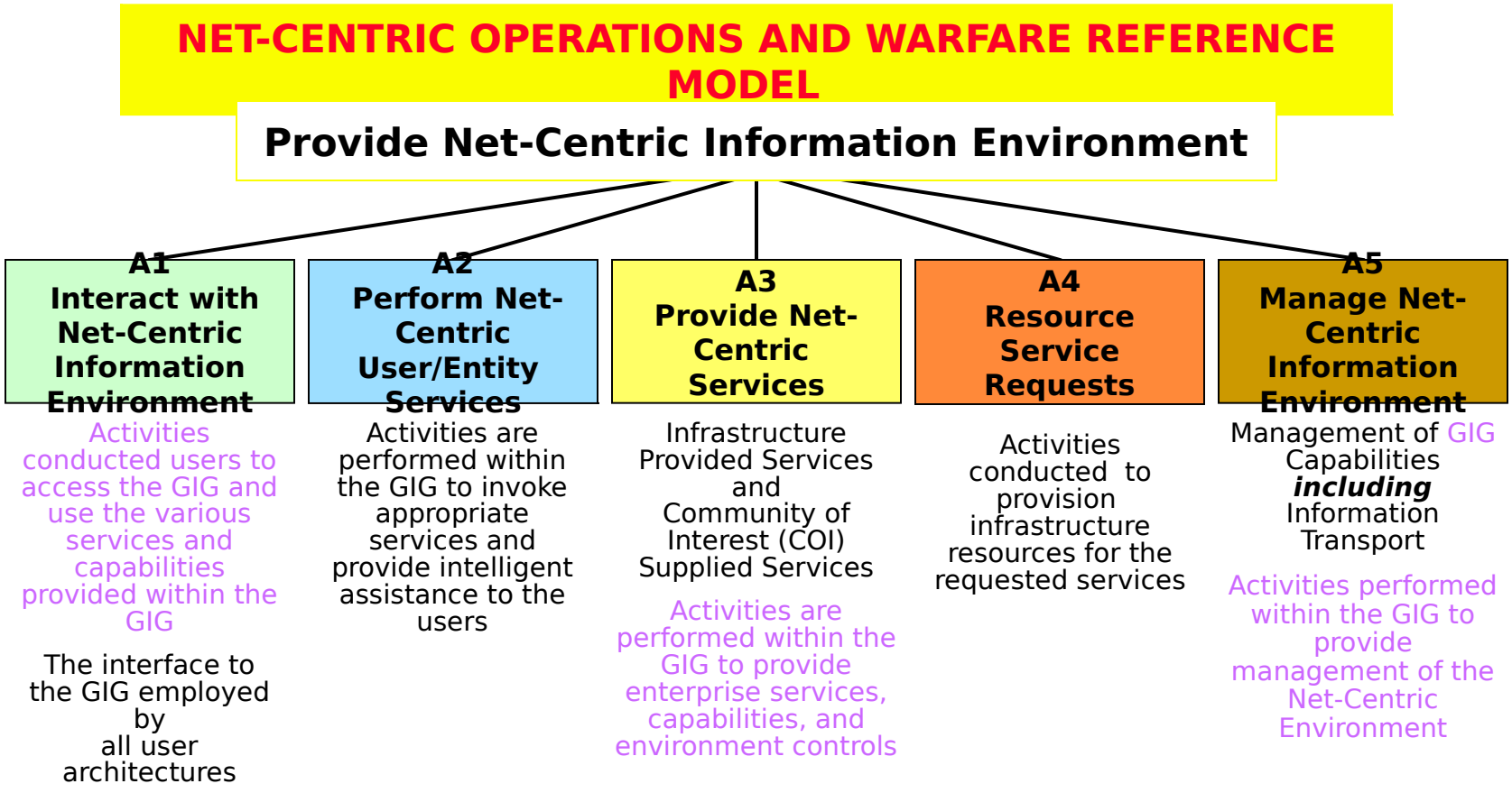
Systems View SV-1 and SV-2



Target Technical View

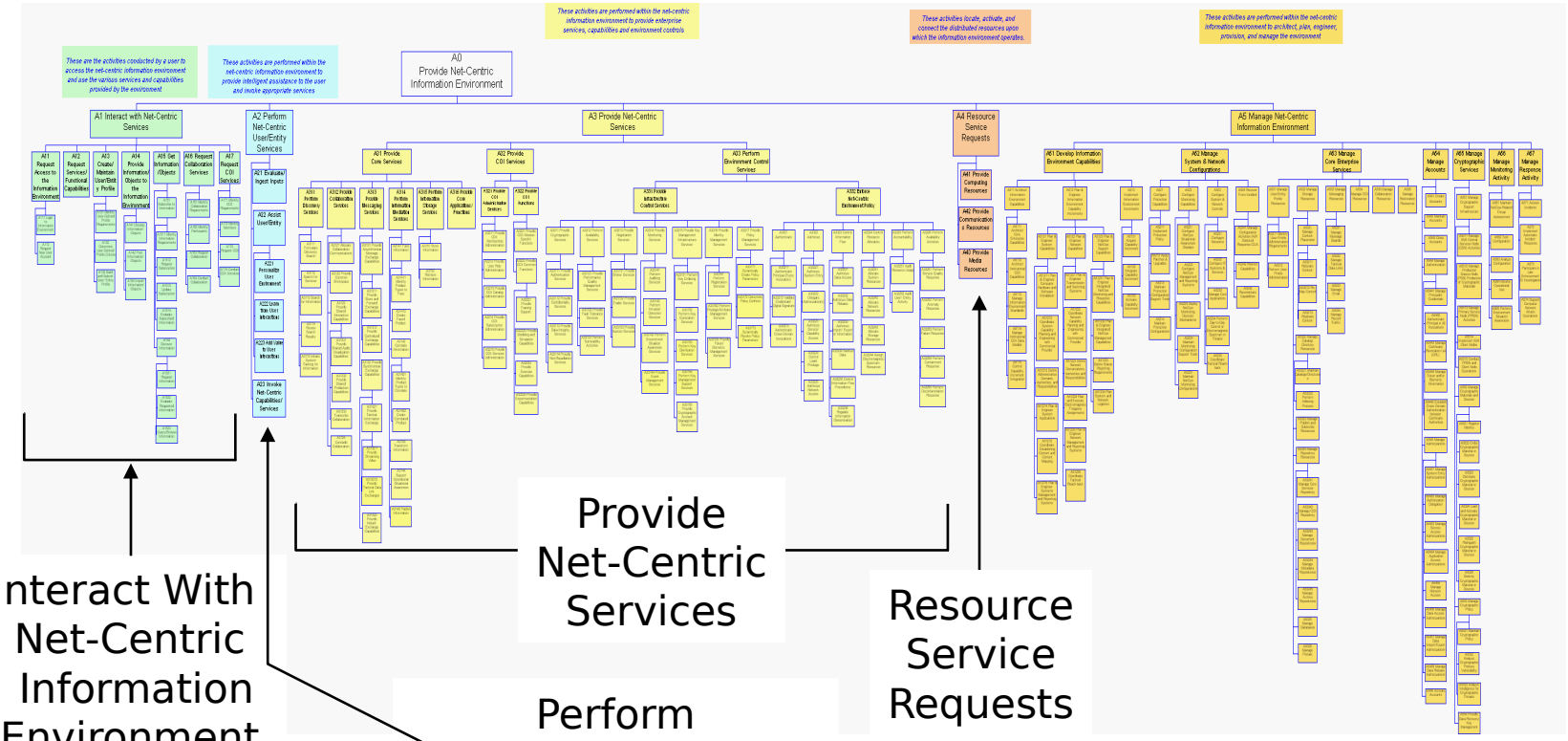
First description of Net-Centricity at the Enterprise Level

Reference Model Activity Decomposition

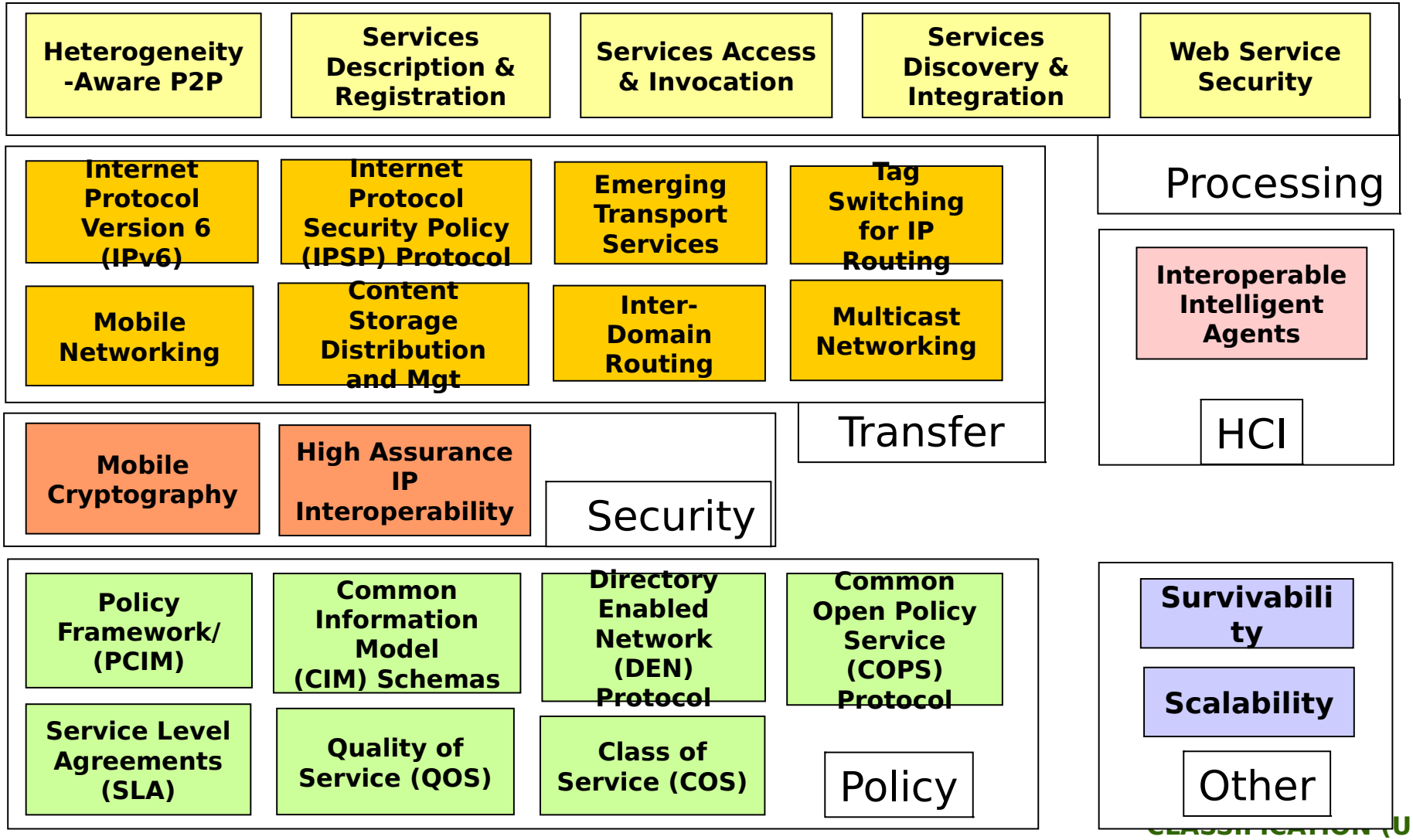

NET-CENTRIC OPERATIONS AND WARFARE REFERENCE MODEL
Provide Net-Centric Information Environment
A1
Interact with Net-Centric Information Environment
Activities conducted users to access the GIG and use the various services and capabilities provided within the GIG
The interface to the GIG employed by all user architectures
A2
Perform Net-Centric User/Entity Services
Activities are performed within the GIG to invoke appropriate services and provide intelligent assistance to the users
A3
Provide Net-Centric Services
Infrastructure Provided Services and Community of Interest (COI) Supplied Services
Activities are performed within the GIG to provide enterprise services, capabilities, and environment controls
A4
Resource Service Requests
Activities conducted to provision infrastructure resources for the requested services
A5
Manage Net-Centric Information Environment
Management of GIG Capabilities including Information Transport
Activities performed within the GIG to provide management of the Net-Centric Environment

Reference Model Activity Decomposition

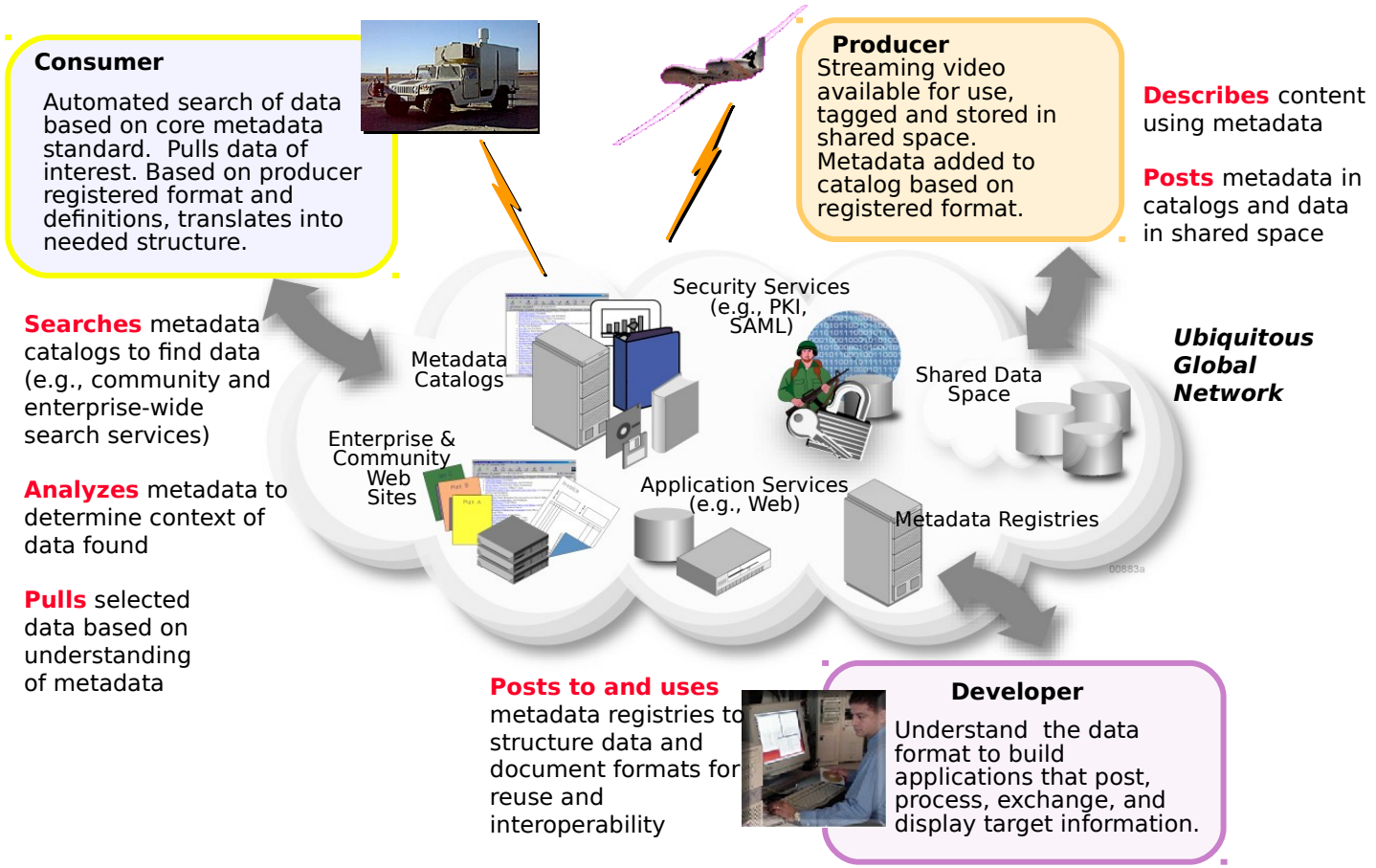
"Provide Net-Centric Info Environment"



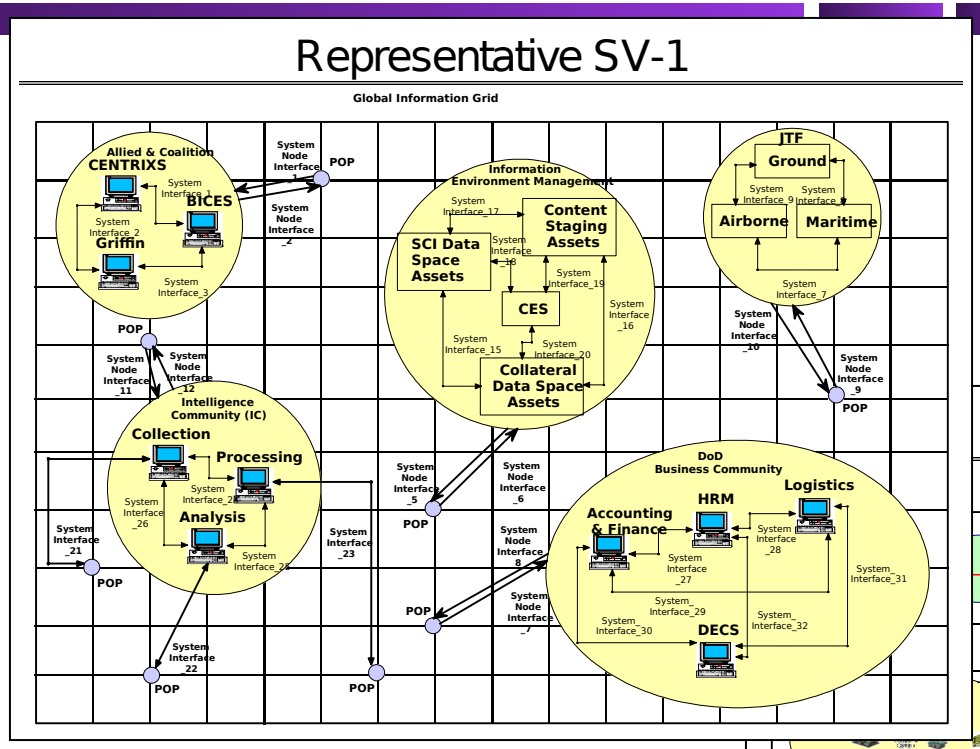
NCOW RM Target Technical View
(Technical Areas by Core IT Category)

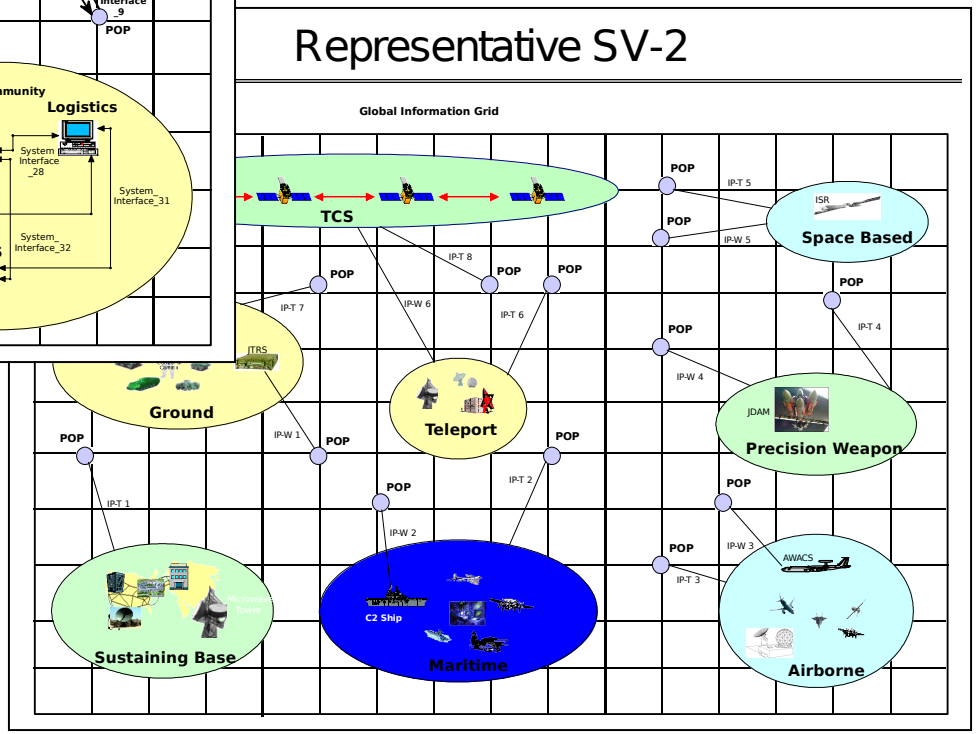


Net-Centric Data Strategy


Consumer
Automated search of data based on core metadata standard. Pulls data of interest. Based on producer registered format and definitions, translates into needed structure.
Producer
Streaming video available for use, tagged and stored in shared space. Metadata added to catalog based on registered format.
Describes content using metadata
Posts metadata in catalogs and data in shared space
Searches metadata catalogs to find data (e.g., community and enterprise-wide search services)
Analyzes metadata to determine context of data found
Pulls selected data based on understanding of metadata
Security Services (e.g., PKI, SAML)
Metadata Catalogs
Shared Data Space
Ubiquitous Global Network
Enterprise & Community Web Sites
Application Services (e.g., Web)
Metadata Registries
Posts to and uses metadata registries to structure data and document formats for reuse and interoperability
Developer
Understand the data format to build applications that post, process, exchange, and display target information.

Reference Model Systems View





Reference Model Versions

- Version 1.0
  - **Service Oriented Architecture**
  - **Approved Dec 03**
- Version 1.1
  - **Net-centric Data Strategy**
  - **DoD and Industry (NDIA) comments**
  - **Draft Version -- May 04**
- Version 1.2
  - **Net-centric Information Assurance Strategy**
  - **DoD and Industry (NDIA) comments**
  - **Draft Version -- July 04**

Net-centric Constructs

–Language/taxonomy
–Net-centric Service Oriented Architecture Strategy
–Net-centric Data strategy
–Net-centric Information Assurance Strategy

GIG Architecture Compliance

- ✓ Architecture products comply with Architecture Framework product definitions and purposes
- ✓ Architecture data conform to the CADM
- ✓ IT/NSS standards derived from the DoD JTA (or presents case for new or unique standards as necessary
- ✓ Conforms to the GIG Net-Centric Operations and Warfare Reference Model:
  - ✓ Uses Reference Model definitions and vocabulary
  - ✓ Incorporates Reference Model OV capabilities and services in the materiel solution
    - ✓ Net-centric SOA Strategy
    - ✓ Net-centric Data Strategy
    - ✓ Net-centric Information Assurance Strategy
- ✓ Inco
  products developed for the proposed solution

Compliance is verified by inspection and analysis

NCOW RM Conformance and Compliance

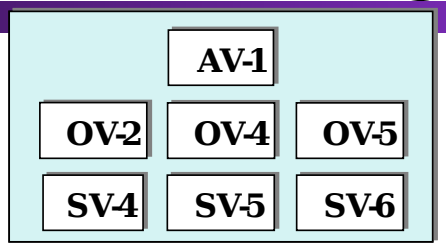
All DoD architectures are expected to comply and conform to the NCOW RM by:

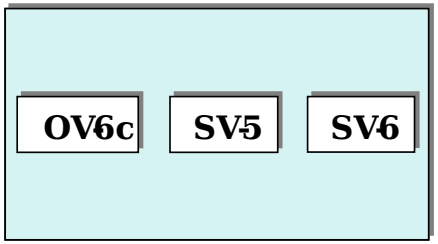
- **Using common NCOW RM definitions and vocabulary**
- **Incorporating the capabilities and services described in the NCOW RM**
- **Incorporating the IT/NSS standards identified in the NCOW RM**

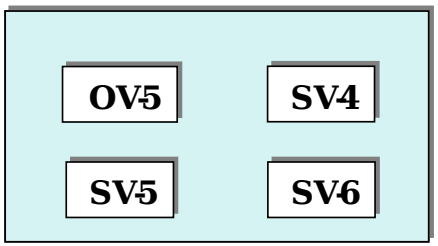
This supports Compliance and conformance with the GIG translates to satisfying the requirements of the following five products:

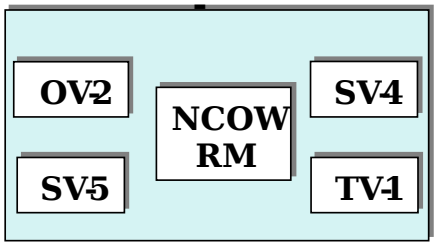
- **DoD Architecture Framework (DoDAF)**
- **Net-Centric Operations and Warfare Reference Model (NCOW RM).**
- **Joint Technical Architecture (JTA) and the NCOW RM.**
- **Core Architecture Data Model (CADM).**
- **GIG Enterprise Services (GIG ES) Capability Description Document (CDD)**

Integrated Architecture



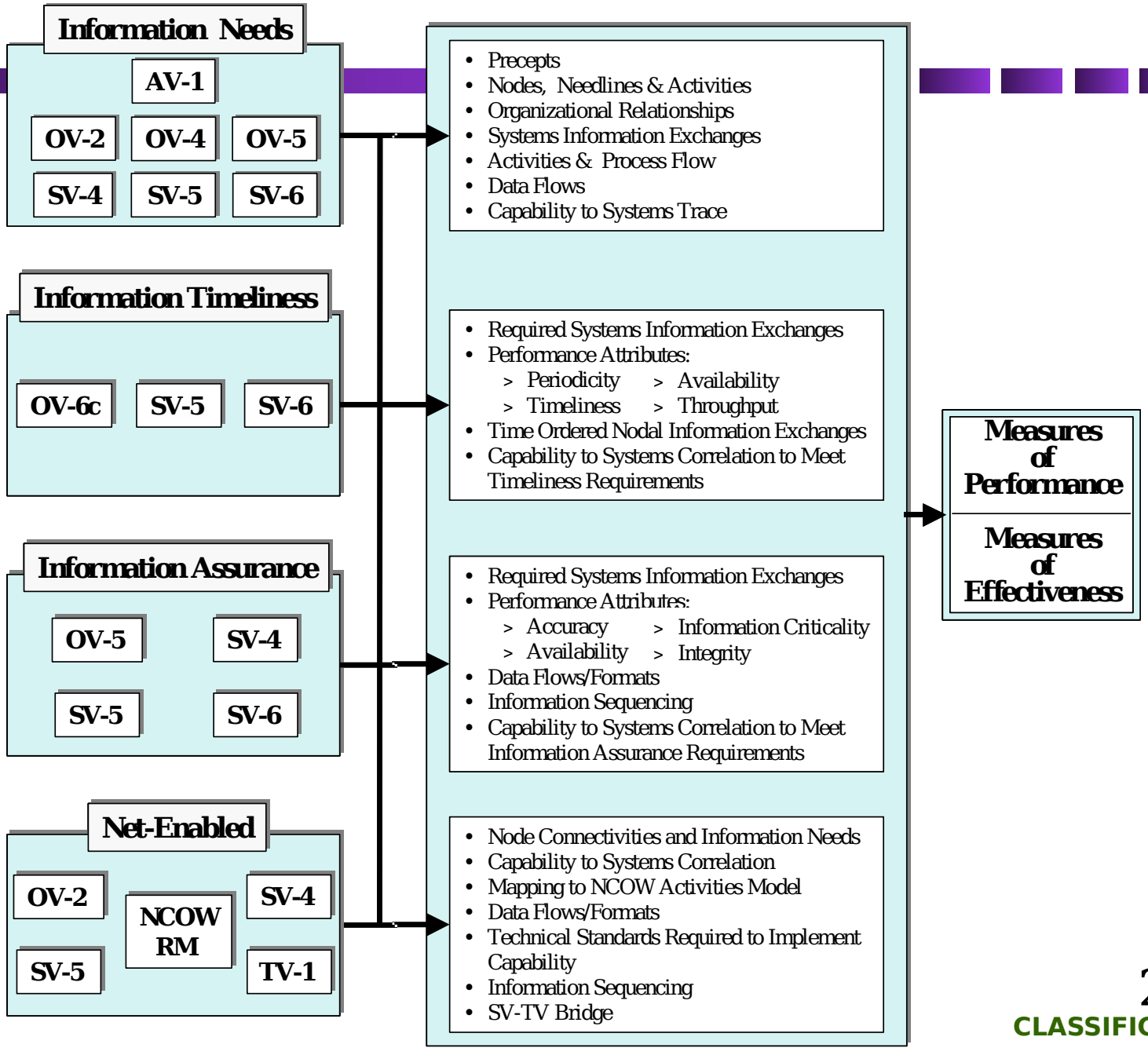






- **Operational Nodes**
- **Organizational Relationships**
- **Operational Activity**
- **Operational Event-Trace**
- **Systems Functionality Description**
- **Operational Activity to Systems Function**
- **Systems Data Exchange**
- **Technical Architecture Profile**

Integrated Architecture



Supporting Integrated Architecture Products

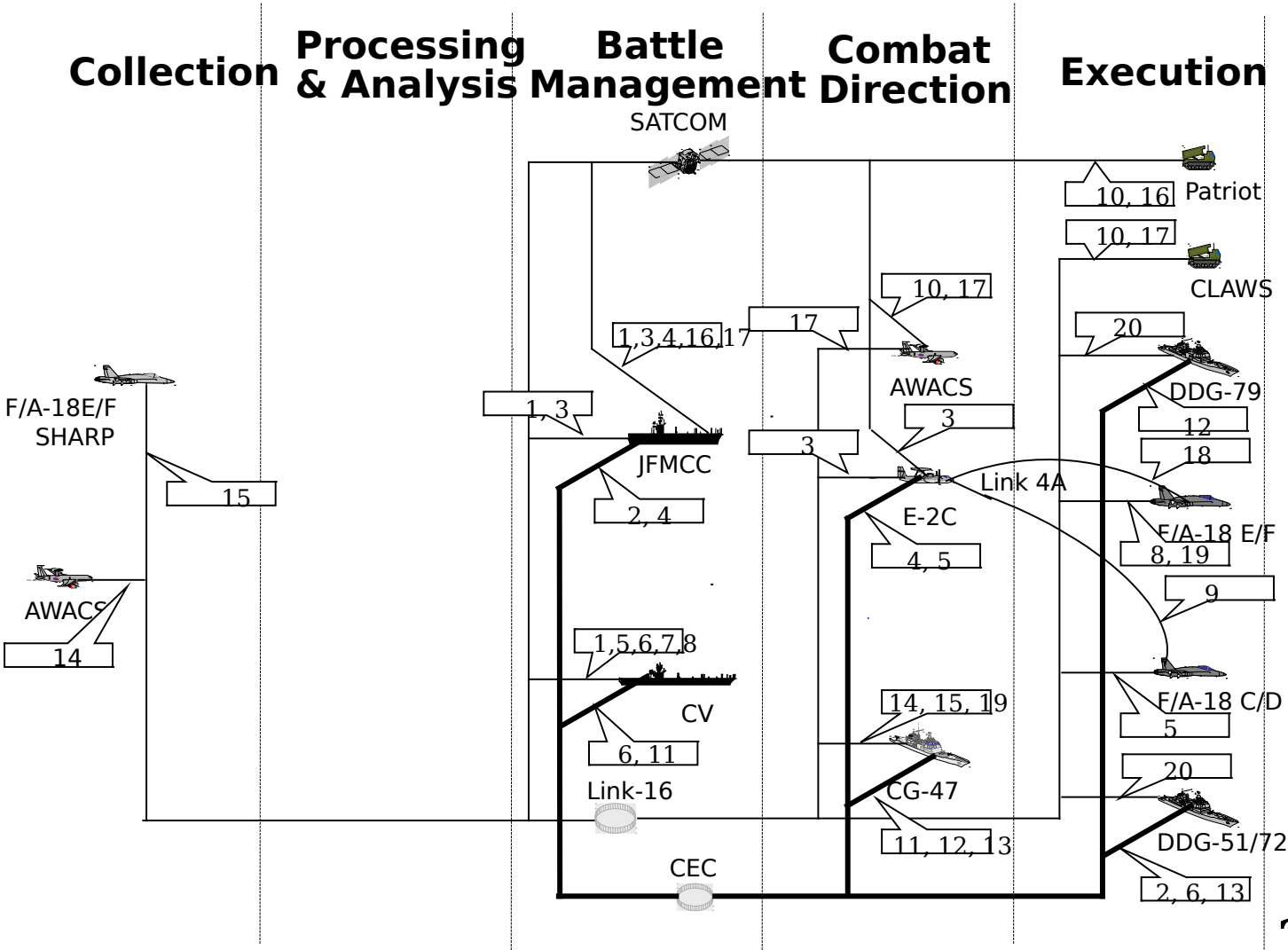
Framework Products	Framework Product Name	General Description
AV-1	Overview and Summary Information	Scope, purpose, intended users, environment depicted, analytical findings
OV-2	Operational Node Connectivity Description	Operational Nodes, operational activities performed at each node, connectivity and information exchange needlines between nodes
OV-4	Organizational Relationships Chart	Organizational, role, or other relationships among organizations
OV-5	Operational Activity Model	Operational activities, relationships among activities, inputs and outputs. Overlays can show cost performing nodes, or other pertinent information.
OV-6c	Operational Event-Trace Description	One of three products used to describe operational activity sequence and timing – traces actions in a scenario or sequence of events and specifies timing of events
SV-4	Systems Functionality Description	Functions performed by systems and the information flow among system functions
SV-5	Operational Activity to Systems Function Traceability Matrix	Mapping of systems back to operational capabilities or of system functions back to operational activities.
SV-6	Systems Data Exchange Matrix	Provides details of systems data being exchanged between systems.
TV-1	Technical Standards Profile	Extraction of standards that apply to the given architecture.

Architecture Analysis

Focus on Architecture and Standards.

- **First order analysis - identifying capability gaps, shortfalls and duplications.**
- **Second order analysis - identifies interoperability requirements.**

SV-1: 2003 Strike Mission Node Connectivity Diagram



Note: Notional architecture for instructional purposes

Operational Activity to Systems Function Traceability Matrix (SV-5)

System Functions	Operational Activities															
	3.11	3.11.3	3.12	3.12.1	3.12.2	3.12.3	3.13	3.14	3.14.1	3.14.2	3.14.3	3.14.4	3.15	3.16	3.17	3.17.1
1	X															
1.1		X														
1.1.1			X													
1.1.1.1	X															
1.1.1.2					X											
1.1.1.3							X									
1.1.2										X						
1.1.2.1				X												
1.1.2.2						X										
1.1.2.3								X								
1.1.3											X					
1.1.3.1													X			
1.1.3.2									X							
1.1.3.3														X		
1.1.3.4														X		

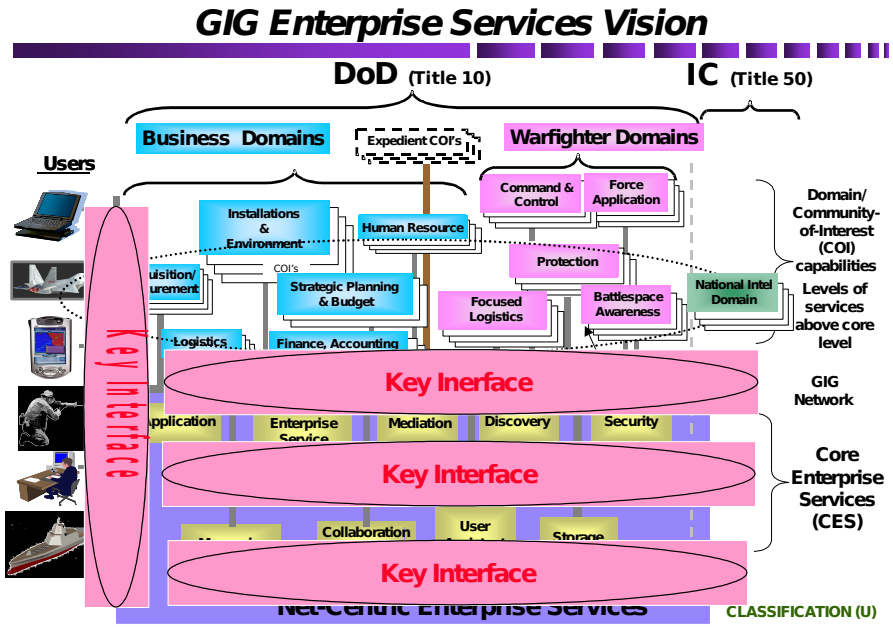
Systems Data Exchange Matrix (SV-6)

SV-6: 2003 Strike Mission (Illustrative Data)

IER No.	Sender	Receiver	Content	Media	Info Char	Format	Security	Freq	Timeliness	Thru put
1	JFMCC	CVIC	Target ID	JTIDS/SAT	Data	J 3.90	KGV-8	N/A	30 sec	N/A
2	DDG-51	JFMCC	Track Init.	DDS	Sensor	CEC data	KY-?	N/A	1 sec	N/A
3	JFMCC	E-2C	Engage Order	JTIDS/SAT	Data	J 13.85	KGV-8	N/A	15 sec	N/A
4	E-2C	JFMCC	Track Update	DDS	Sensor	CEC data	KY-?	N/A	7ms	N/A
5	CVIC	F/A-18	Engage Order	JTIDS	Data	J 13.85	KGV-8	N/A	10ms	N/A
6	DDG-51	CVIC	Target Loc	DDS	Sensor	CEC data	KY-?	N/A	4 sec	N/A
7	Patriot	CVIC	Target Acq	JTIDS	Data	J 4.56	KGV-8	N/A	2 min	N/A
8	F/A-18CD	CVIC	Target Killed	JTIDS	Data	J 8.76	KGV-8	N/A	3 min	N/A
9	E-2C	CVIC	CAP Posit	JTIDS	Data	J 10.74	KGV-8	N/A	35 sec	N/A
10	Patriot	AWACS	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 Sec	N/A
11	CG-47	CVIC	Target Loc	DDS	Sensor	J 12.101	KY-?	N/A	2 sec	N/A
12	CG-47	DDG-81	Target ID	DDS	Sensor	CEC data	KY-?	N/A	1 sec	N/A
13	DDG-51	CG-47	Posit Info	DDS	Sensor	CEC data	KY-?	N/A	500 ms	N/A
14	CG-47	AWACS	Cse Orders	JTIDS	Data	J 7.99	KGV-8	N/A	2 min	N/A
15	CG-47	SHARPS	Cse Orders	JTIDS	Data	J 7.99	KGV-8	N/A	2 min	N/A
16	Patriot	JFMCC	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 min	N/A
17	Hawk	JFMCC	Target Loc	JTIDS/SAT	Data	J 12.101	KGV-8	N/A	4 min	N/A
18	E-2C	F/A-18EF	Cse Orders	JTIDS	Data	FDL	KGV-8	N/A	30 sec	N/A
19	F/A-18EF	CG-47	Target ID	JTIDS	Data	J 3.90	KGV-8	N/A	30 sec	N/A
20	DDG-81	DDG-51	Target ID	JTIDS	Data	J 3.90	KGV-8	N/A	30 sec	N/A

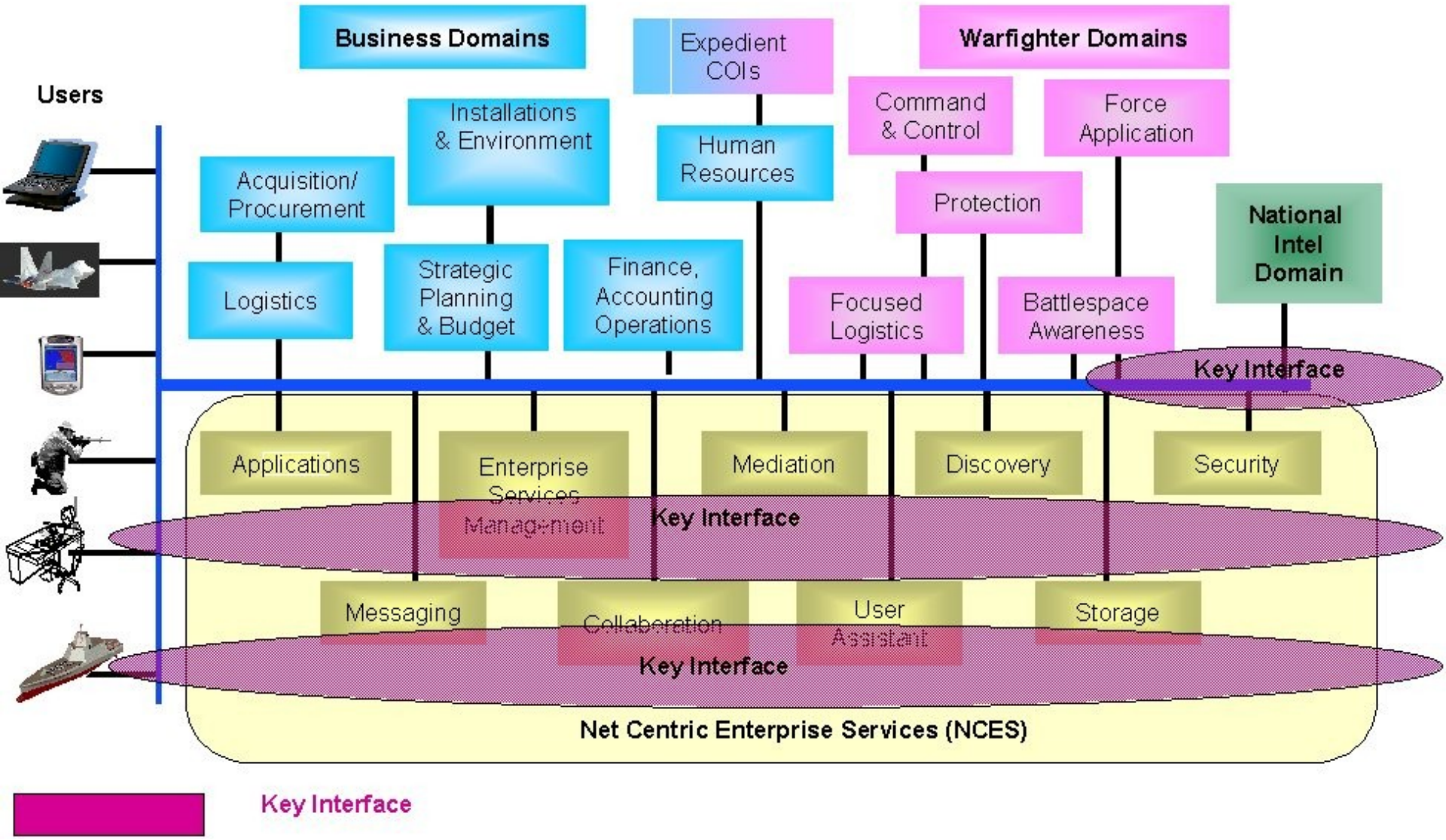
Note: Notional architecture for instructional purposes

Key Interface



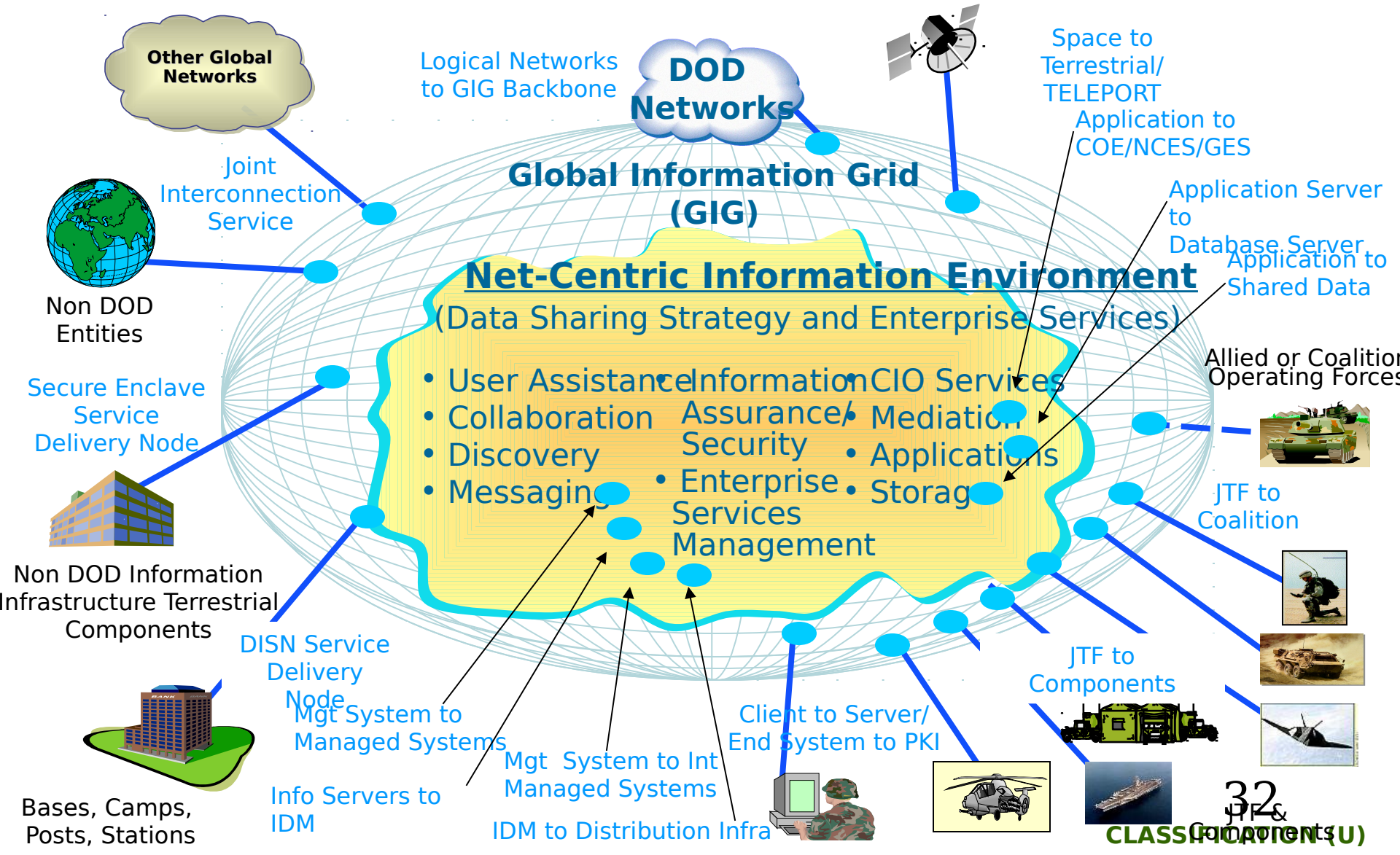
- **Organizational boundaries.**
- **Mission critical.**
- **Difficult or complex to manage.**
- **Capability, interoperability. or efficiency issues.**
- **Impacts multiple acquisition programs.**
- **Vulnerable**

GES/NCES



CLASSIFICATION (U)

KIPs to NCES/GES



The 17 Key Interfaces

Communications KIPs

- Logical Networks to DISN Transport Backbone
- Space to Terrestrial Interface
- JTF to Coalition
- JTF Component to JTF Headquarters
- Teleport (i.e., deployed interface to DISN)
- Joint Interconnection Service
- DISN Service Delivery Node
- Secure Enclave Service Delivery Node (e.g., SCI/Collateral KIP)

Computing KIPs

- Application Server to Database Server
- Client to Server
- Applications to COE/CCP

Network Operations KIPs

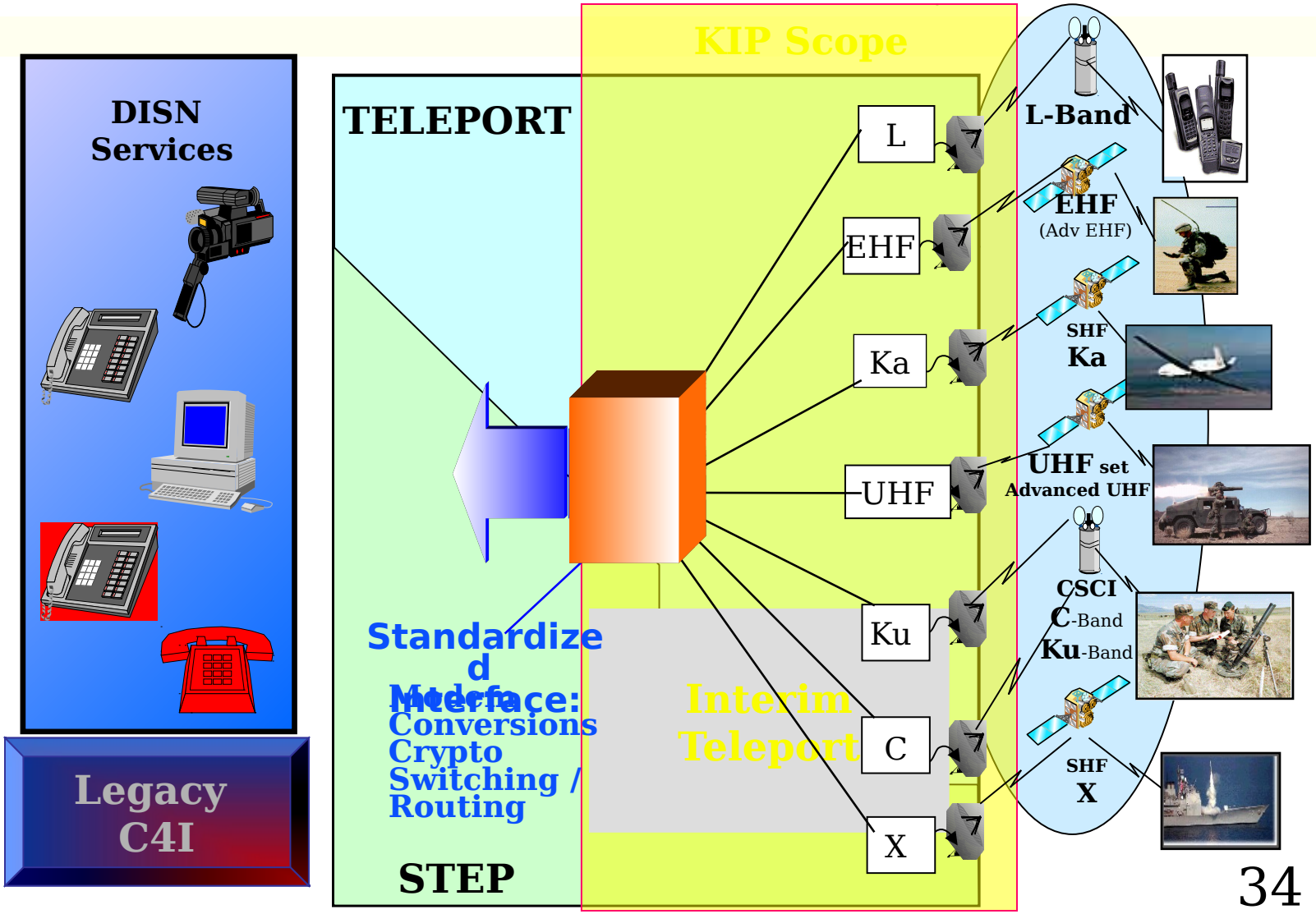
- End System to PKI
- Management Systems to (integrated) Management Systems
- Management Systems to Managed Systems
- IDM to Distribution Infrastructure
- Information Servers to IDM Infrastructure

Applications

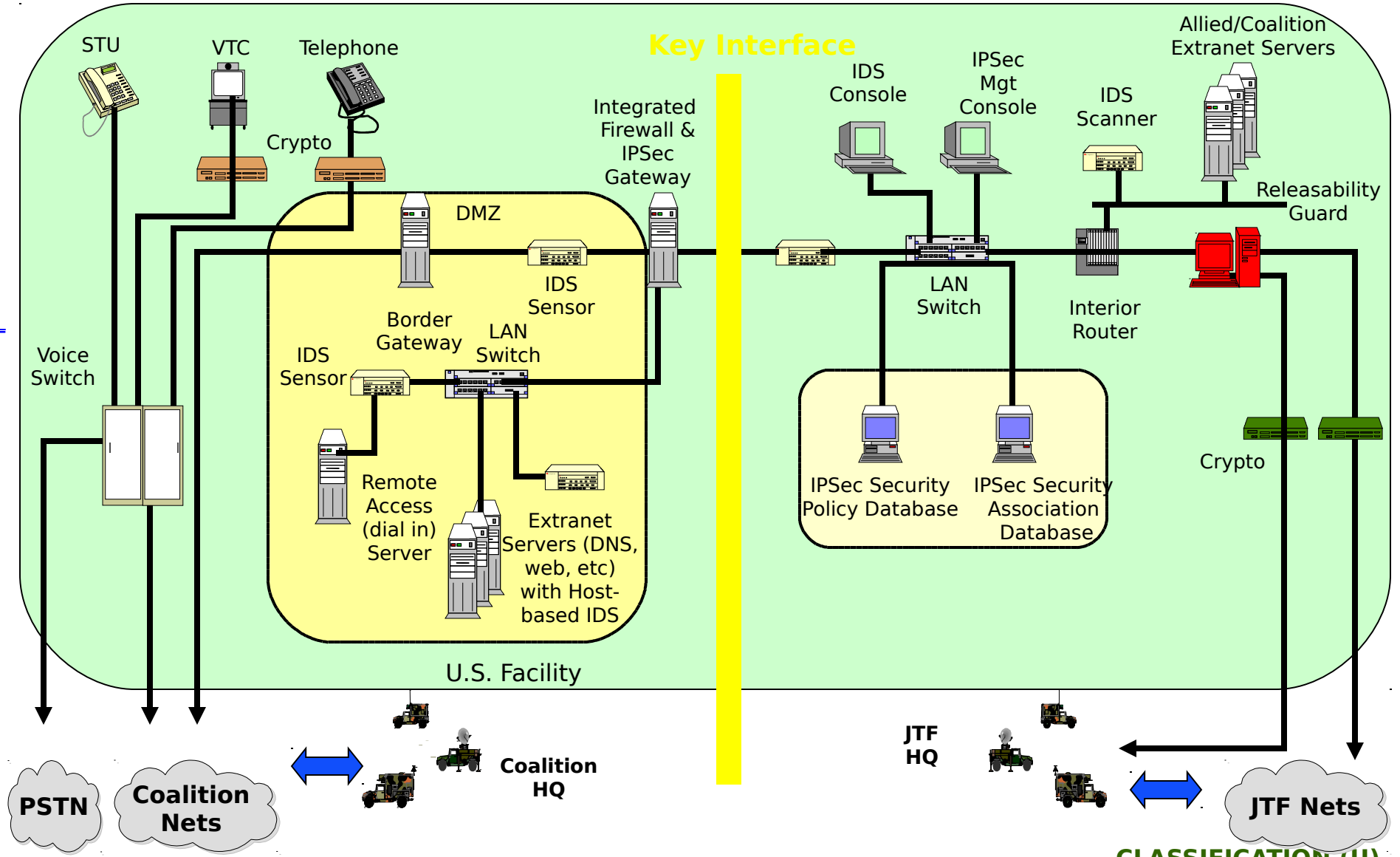
- Application Server to Shared Data (e.g., Situational Awareness Data KIP)

(Pilot Projects in Red)

STEP/TELEPORT



JTF to Coalition



Key Interface Profile

- ✓**Refined Operational View**
- ✓**Refined System View**
- ✓**Interface Control Specifications -- Interface Control Document (ICD)**
- ✓**Technical View & SV-TV Bridge**
- ✓**Configuration Management Plan**
- ✓**Procedures for Standards Conformance and Interoperability Testing utilizing reference implementations**
- ✓**Engineering Management Plan**

KIP Analysis

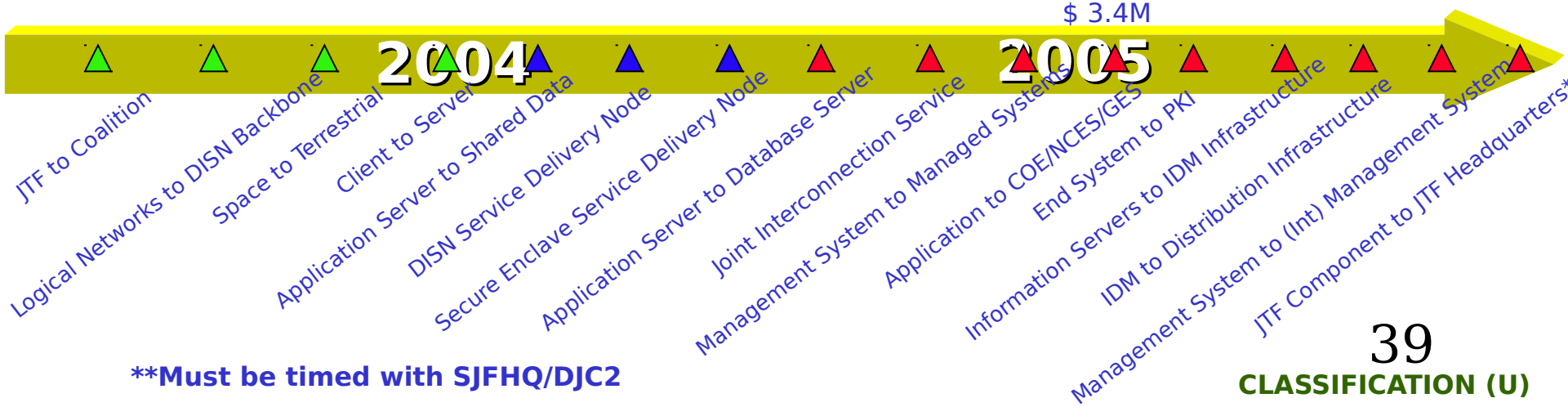
- **Logical Networks to DISN Transport Backbone.** Does your network connect to DISN Backbone?
- **Space to Terrestrial.** Does your ground terminal utilize or require access to DOD SATCOM programs such as DSCS, MILSTAR, FLTSAT, UFO, MUOS, Polar EHF, GPS, GBS, INMARSAT, Wideband Gapfiller, etc?
- **STEP and TELEPORT.** Does your ground terminal interface with/connect with STEP/TELEPORT systems?
- **JTF to Coalition.** Does your program or system interface with/connect the JTF to coalition forces?
- **JTF Component to JTF Headquarters.** Does your program or system interface/connect the JTF Component to the JTF Headquarters?
- **Joint Interconnection Service.** Does your organization connect the NIPRNET to Internet?
- **DISN Service Delivery Point.** Does your base, camp, post, station, unit or organization connect to the DISN?
- **Secure Enclave Service Delivery Point.** Does your system or program interface with or connect a Secure Enclave local area network to DISN service delivery point?
- **Client to Server.** Does your workstation publish, utilize or require access to data residing in DOD/NCES/GES servers?
- **End System to PKI.** Do your workstation and applications utilize or interface with utilize DOD **PKI?**
- **Information Servers to IDM Infrastructure.** Does your information server (collaboration, discovery, mediation, security, application, messaging, etc) require access to NCES/GES Infrastructure?
- **IDM to Distribution Infrastructure.** Does your network management system and communications system requires access to NCES/GES?
- **Management Systems to Managed Systems.** Does your system for personal and local computing manage the local network infrastructure (routers, WAPs, switches, hubs, firewalls, gateways, IDS), servers, and terminal devices (desktop computers, printers, wireless terminals?
- **Management Systems to (Integrated) Managed Systems.** Does your management system interface with DOD GNOSC, RNOSC? Includes NIPRNET NOC, GSSC, SIPRNET NOC, DSN NOC, DRSN NOC?
- **Applications Server to Database Server.** Does your web or application server require access to NCES/GES database server(s)?
- **Applications to Shared Data.** Does your application require access to shared data residing in NCES/GES infrastructure?
- **Application to COE/NCES/GES.** Does your application require access to COE/NCES/GES services?

KIP Compliance

- **Analysis required by PM to determine applicable KIPs**
- **Implemented IAW profile**
- **Validated during testing**

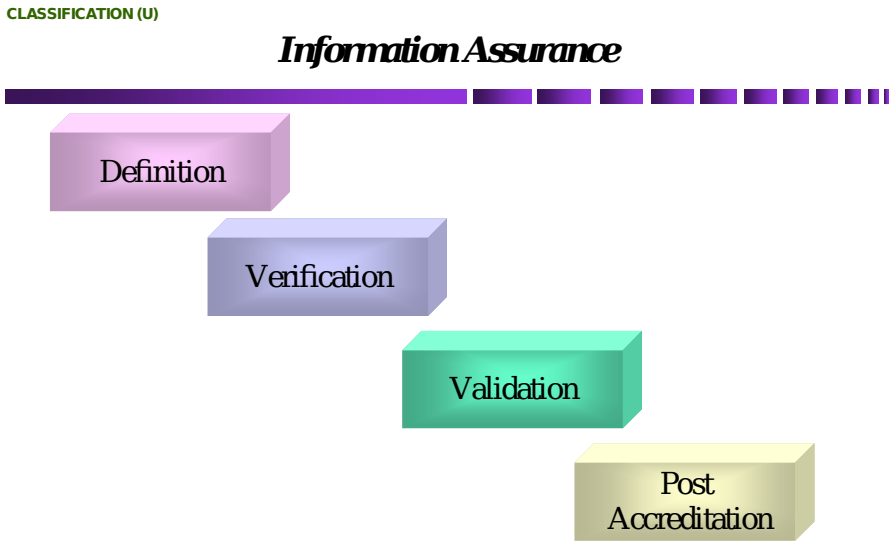
Key Interfaces – Prioritized/Funding Requirements

Priority	Key Interface Profile	Estimated Cost
1.	JTF Component to JTF Headquarters**	400K
2.	JTF to Coalition	300K
3.	Logical Networks to DISN Transport Backbone	100K
4.	Space to Terrestrial	300K
5.	TELEPORT	done
6.	Client to Server	100K
7.	Application Server to Shared Data	50K
8.	DISN Service Delivery Node	200K
9.	Secure Enclave Service Delivery Node	250K
10.	Application Server to Database Server	200K
11.	Joint Interconnection Service	200K
12.	Management System to Managed Systems	250K
13.	Application to COE/CCP (NCES/GES)	200K
14.	End System to PKI	200K
15.	Information Servers to IDM Infrastructure	250K
16.	IDM to Distribution Infrastructure	200K
17.	Management System to (integrated) Management Systems	200K
		$ 3.4M



**Must be timed with SJFHQ/DJC2

Information Assurance (DITSCAP)*



- **Availability**
- **Integrity**
- **Authentication**
- **Confidentiality**
- **Non-repudiation**

INFORMATION ASSURANCE (IA): **Information Operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation.**

*DoD Information Technology Security Certification and Accreditation Process

Certification and Accreditation Process (DITSCAP)

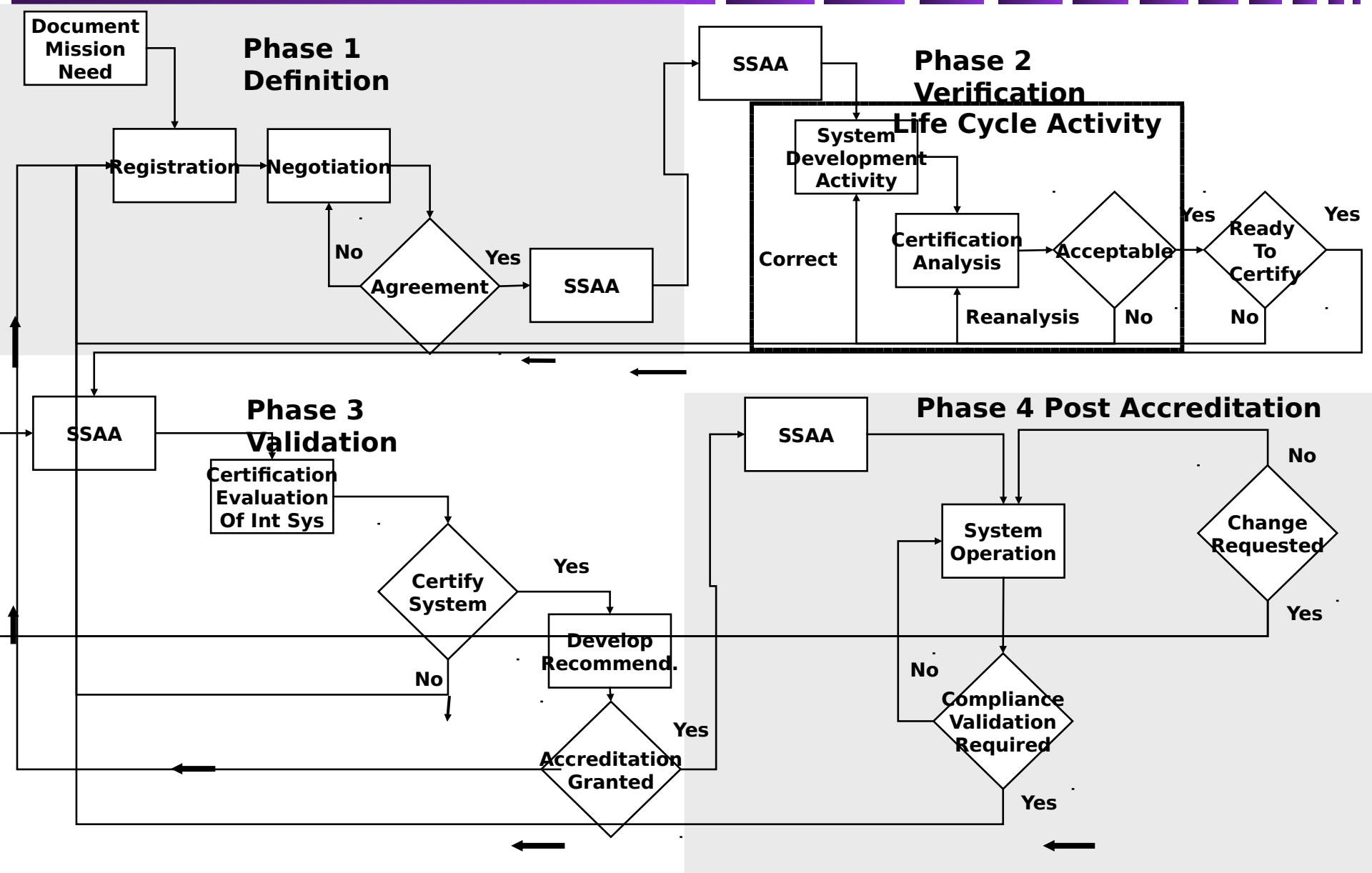


Table E4-1. Management Responsibilities by DITSCAP Phase.

Phase	Program Manager	DAA and CA	User Representative
Phase 1	Initiate security dialogue with DAA, the CA, and the user representative. Define system schedule and budget. Define and/or validate system performance, availability, and functionality requirements. Support DITSCAP tailoring and level of effort determination. Draft or support drafting of the SSAA. Reach agreement on the SSAA. Approve the SSAA.	Define ITSEC accreditation requirements. Obtain threat assessment. Begin vulnerability and risk assessments. Assign the CA. Support DITSCAP tailoring and determine the level of effort. Draft or support drafting of the SSAA. Reach agreement on the SSAA. Approve the SSAA.	Validate and/or define system performance, availability and functionality requirements. Support DITSCAP tailoring and level of effort determination. Reach agreement on the SSAA. Approve the SSAA.
Phase 2	Review the SSAA. Develop system or system modifications. Support certification actions. Review certification results. Revise system as applicable.	Review the SSAA. Evaluate developing system. CA performs certification actions. CA assesses vulnerabilities. CA reports results to the program manager, the DAA, and the user representative. Maintain the SSAA.	Review the SSAA. Support certification actions. Support certification actions.

Table E4-1. Management Responsibilities by DITSCAP Phase.

Phase	Program Manager	DAA and CA	User Representative
Phase 3	Review the SSAA. Test integrated system. Support certification actions. Review certification results. Revise system as applicable. Support SSAA revisions.	Review the SSAA. Evaluate developing system. CA performs certification actions. Assess vulnerabilities and residual risk. CA reports results to the program manager, the DAA, and the user representative. CA develops recommendation to the DAA. CA prepares accreditation package. Review the SSAA. Issue decision.	Review the SSAA. Support certification actions. Review certification results. Support SSAA revisions.
Phase 4	Review SSAA periodically. Operate system as described in the SSAA. Maintain an acceptable level of residual risk. Submit proposed changes to the user representative, the ISSO, the DAA, and the CA, as applicable. Support compliance validation.	Review the SSAA. Review proposed changes Oversee compliance validation.	Review the SSAA. Oversee system operation as described in the SSAA. Maintain an acceptable level of residual risk. Continuously review threat, system vulnerabilities and residual risk. Review and approve proposed changes. Submit significant changes to the DAA and the CA. Perform compliance validation actions.

Net Ready KPP Statement

Net Ready KPP	Threshold (T)	Objective (O)
All activity interfaces, services, policy-enforcement controls, and data-sharing of the NCOW-RM and GIG-KIPs will be satisfied to the requirements of the specific Joint integrated architecture products (including data correctness, data availability and data processing), and information assurance accreditation, specified in the threshold (T) and objective (O) values.	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise-level or critical in the Joint integrated architecture	100% of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the Joint integrated architecture

JROCM Guidance

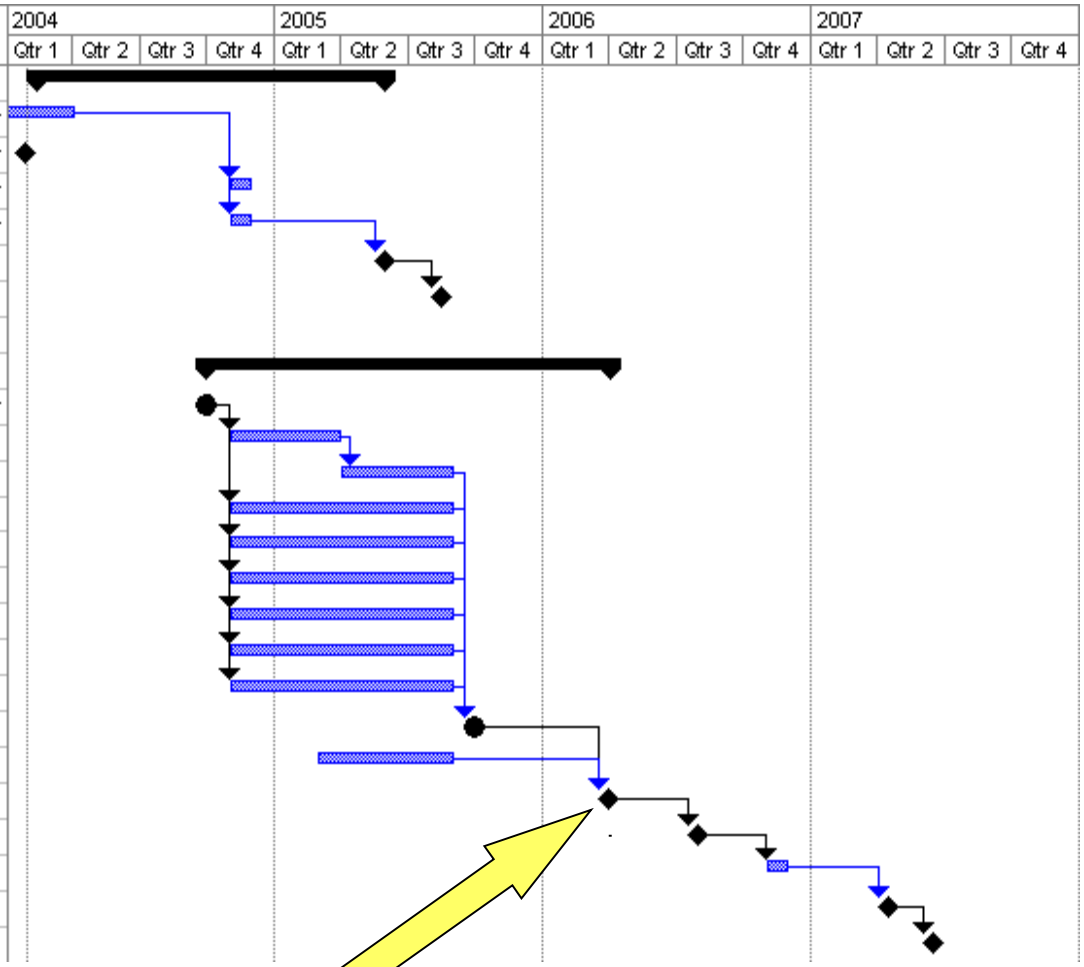
The following statement in the Interoperability Key Performance Parameter section of the document prior to proceeding to further review (re-staffing of the document is not required):

"The **<Document Sponsor>** will update the Interoperability Key Performance Parameter to include all applicable established components of the Net Ready Key Performance Parameter (NR-KPP) in accordance with CJCSI 62 12.0 1 C and a migration strategy to the remaining applicable components of the NR-KPP no later than **<date - no more than 6 months>."**

This update will be submitted through the Joint Capabilities Integration and Development System (JCIDS) process for certification.

A2C2S Net Ready KPP Migration Plan

ID	Task Name	Start	Finish
1	**Interoperability KPP Implementation**	Fri 2/13/04	Tue 5/31/05
2	ORD Change 1 JROC Validation	Thu 5/1/03	Thu 4/1/04
3	J6 Interoperability Certification	Thu 1/29/04	Thu 1/29/04
4	IOTE	Mon 11/1/04	Tue 11/30/04
5	JITC Interoperability Testing	Mon 11/1/04	Tue 11/30/04
6	Interoperability Certification	Tue 5/31/05	Tue 5/31/05
7	Block I Full Rate Production	Mon 8/15/05	Mon 8/15/05
8			
9	**Net Ready Migration**	Fri 10/1/04	Sat 4/1/06
10	**Start ORD conversion to CPD Incr #2**	Fri 10/1/04	Fri 10/1/04
11	Integrated Architecture Products	Mon 11/1/04	Thu 3/31/05
12	Electronic Architecture DB Update	Fri 4/1/05	Wed 8/31/05
13	CRD Crosswalk	Mon 11/1/04	Wed 8/31/05
14	Net Ready KPP Statement	Mon 11/1/04	Wed 8/31/05
15	KIP Assessment	Mon 11/1/04	Wed 8/31/05
16	IA Statement and Compliance	Mon 11/1/04	Wed 8/31/05
17	NCOW RM Assessment	Mon 11/1/04	Wed 8/31/05
18	Interconnectivity & Interop Profiles	Mon 11/1/04	Wed 8/31/05
19	**Complete A2C2S CPD Incr #2**	Fri 9/30/05	Fri 9/30/05
20	C4ISP to ISP conversion	Tue 3/1/05	Wed 8/31/05
21	**JROC Validation CPD and NR KPP**	Sat 4/1/06	Sat 4/1/06
22	Incr #2 (Block II) Milestone C	Tue 8/1/06	Tue 8/1/06
23	JITC Interoperability Testing	Wed 11/1/06	Thu 11/30/06
24	Interoperability Certification	Mon 4/16/07	Mon 4/16/07
25	Incr #2 Full Rate Production	Fri 6/15/07	Fri 6/15/07



Net Ready KPP Migration Completed with JROC Validation and Approval

Example NR-KPP Transition/Certification Steps

CJCSI 6212.01C prescribes 7 steps for NR-KPP development/certification:

1. Develop the Mandatory Architecture Views
2. Complete CDD (ORD) CRD Crosswalk
3. Build a DISR online standards profile (TV-1)
4. Complete the initial LISI profile (Interface Requirement Profile) using the INSPECQTOR tool
5. Include the NR-KPP statement
6. Include the Key Interface Profile (KIP) Declaration
7. Include an IA statement of compliance

CJCSI 6212.01C provides criteria for J-6 Interoperability Requirements Certification (F-2) & Net Centric Assessment (F-3):

Sub Task 1:
Compliance with 24 certification criteria set in Table F-2

Sub Task 2:
Characterize FCS FoS net-centric attributes using the 24 Net Centric Assessment Criteria detailed in Table F-3

FCS Net Ready KPP Strategy

Team 1
Architecture

Mission Statement: **Develop mandatory NR KPP architecture views: AV1, OV2, 4, 5, 6C, SV4, 5, 6, and TV1**

End State: **Stake holder compiled and recommended series of views that reflect Operational concepts embodied by UA and demonstrate adherence to net readiness guidance**

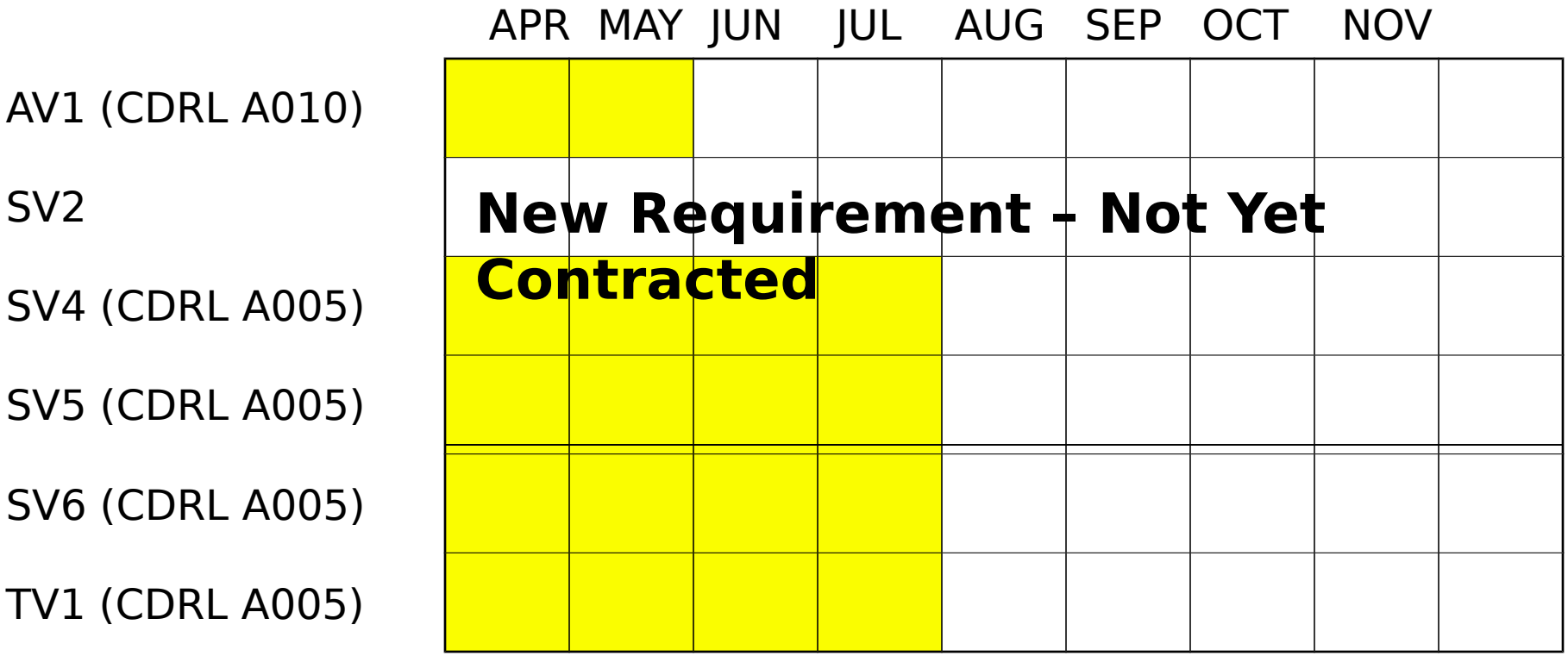
Net-Ready KPP – Step 1

Product	Agency	Status	Remarks
AV-1	**PM / LSI**		**AV1 to be delivered in LSI Produced FCS Architecture Development Plan Overview and Summary All View -1. CDRL A010 May 04.**
OV-1	**LSI / AIMD / UAMBL**		**High Level – From current ORD** **Version 2.0 of IPs 4, 5, 21, 23, and 24 (entire) selected for ORD inclusion.**
OV-2	**LSI / AIMD / UAMBL**		
OV-3	**LSI / AIMD / UAMBL**		**High Level from current ORD; OV3s for IPs resident in AARMS data**
OV-4	**LSI / AIMD / UAMBL**		**Aviation Squadron?**
OV-5	**LSI / AIMD / UAMBL**		**Will be part of next Architecture update (Sep 04)**
OV-6c	**LSI / AIMD / UAMBL**		**Currently Labeled Process Flow Diagram; Meets DODAF Description of OV6c**
SV-1 / **SoSV-1**	**LSI / PM**		**High Level – From current ORD** **Comanche, other complimentary systems, readability**
SV-2	**LSI**		**New Requirement**
SV-4	**LSI**		**Under Development. Jul 2004deliverable. CDRL A005**
SV-5	**LSI**		**Under Development. Jul 2004deliverable. CDRL A005**
SV-6	**LSI**		**Under Development. Jul 2004deliverable. CDRL A005**
TV-1	**PM / LSI / G6**		**TV 1 Requires Update to Conform to Evolving Guidance (JTA, JTA-A)**

Team 1 Architecture

- **AV1 to be updated in LSI Produced FCS Architecture Development Plan Overview and Summary All View -1. (May 04, CDRL A010)**
- **OV5 Has Not Been Produced for this Version (2) of the Architecture. Version 3 of the Architecture will Include an OV 5 and will be Available by September 2004.**
- **All OVs Being Converted to UML**
- **Presentation of Data in Repositories**
- **SVs / TV1 (less SV1) to Support NRKPP are Under Development. CDRIL A005 delivery Jul 04.**

Architecture Development Timeline



Team 2
CRD/ORD Crosswalk

Mission Statement**: Review / Update ORD to CRD Crosswalk**

End State**: Updated Appendix D to FCS ORD**

CRD-ORD Crosswalk

CRD	Class	Applicable	Status	Remarks
Advanced Military Satellite Communications (MILSATCM) CRD 24 Apr 1998		YES		
Ballistic Missile Defense (BMD) JROC Draft 11 Oct 01		NO		No specific applicability
Combat Identification (Combat ID) CRD 19 Mar 2001		YES		
Close Air Support (CAS) CRD 6 May 2002		YES		
Defense Information Systems Network (DISN) CRD 15 Apr 1996		NO		Complying with higher level requirements of GIG
Distributed Common Ground / Surface Systems (DCGS) 6 Jan 2003		YES		
Global Air Transportation Management (GATM) Phase I CRD 15 Nov 1999		NO		Theater level transport aircraft
Global Air Transportation Management (GATM) Phase II CRD 2 Jun 2000		YES		
Global Combat Support System (GCSS) CRD 27 Jun 2000		YES		
Global Information Grid (GIG) CRD 30 Aug 2001		YES		

CLASSIFICATION
(U)

CRD-ORD Crosswalk

CRD	Class	Applicable	Status	Remarks
Hard and Deeply Buried Target (HDBT) Defeat CRD 01 Dec 2000				
Imagery and Geospatial Information (I&GI) CRD 5 Oct 2000				
Information Dissemination Management (IDM) CRD 8 May 01		NO		Requirements incorporated in GIG CRD
Integrated Satellite Operations CRD Jan 2002		NO		No Space vehicles/control in UA
Space Control CRD 20 Mar 2000		NO		No Space vehicles/control in UA
Theater Air and Missile Defense (TAMD) CRD 01 Mar 2001		NO		
Theater Medical Information Program (TMIP) CRD 22 Feb 1999		YES		
Unified Cryptologic System CRD		YES		TS. Crosswalk not included here. Any crypto systems will be in compliance
United States Measurement And Signatures Intelligence CRD (USMS) 14 Nov 2002		YES		
Joint Deployment System (JDS) CRD March 2003		TBD		

(U)

Team 3
TV-1

Mission Statement: **Build a DISR online standards profile (TV-1)**

End State**: Initial TV-1 complete to facilitate ORD staffing NLT 12 MAR 2004**

Team 4
LISI Profile

Mission Statement**: Complete initial LISI profile using INSPEQTOR tool.**

End State**: Initial LISI profile complete to facilitate ORD staffing NLT 12 MAR 2004**

Team 4
LISI Profile

- **Step 4 - Complete the initial LISI profile (Interface Requirement Profile) using the INSPECQTOR tool. This profile is required prior to submitting the CDD. See Enclosure K.**
- **Enclosure K – Interconnectivity and Interoperability Capability (IIC) Profile.**
  - **IIC is composed of 2 elements**
    - **Interconnectivity Profile**
    - **Interoperability Capabilities Profile (generated through LISI questionnaire and report generator in Inspeqtor)**

Team 5
NR KPP Statement

Mission Statement**: Finalize draft NR KPP statement and begin electronic staffing.**

End State**: Draft NR KPP sent to appropriate communities for staffing and comments received prior to 12 MAR 2004**

DRAFT FCS NR-KPP

Increment 1: FCS FoS activity interfaces, services, policy-enforcement controls, and data-sharing of the NCOW-RM and GIG-KIPs will be satisfied to the requirements of the specific Joint integrated architecture products (including data correctness, data availability and data processing), and information assurance accreditation.

Rationale: The FCS-equipped UA will operate as part of a Joint Team across DOTMLPF, supporting operations vertically and horizontally, from alert through deployment and employment. Given Joint Communications support and bandwidth between JTF, intervening HQ as established, and UA, [the FCS FoS will meet 100 percent of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements designated as enterprise-level or critical in the Joint integrated architecture (Threshold) and 100 percent of interfaces; services; policy-enforcement controls; and data correctness, availability and processing requirements in the Joint integrated architecture (Objective)].

KPP #1

Team 5
NR KPP Statement Issues

- **IKPP placement vice NR KPP**
- **NR statement**

Team 6
KIP Declaration Issues

- **Developed Declaration**
- **FCS must comply with all 17 KIPs**
- **Awaiting approval of format**

KEY INTERFACE PROFILE DECLARATION		
KIP	**FCS Applicable**	**ORD Reference**
KIP 1 Logical Network to DISN Transport Backbone	Yes	**ORD 3156, ORD 3470, ORD 3447, ORD 3752** Base ORD paragraph 5.3.1, Annex H 2.5.2.11.2
KIP 2 Space to Terrestrial Interface	Yes	**ORD 2401, ORD 3749**
KIP 3 JTF to Coalition	Yes	**ORD 1120, ORD 3752, ORD 2202**
KIP 4 JTF Components to JTF HQ's	Yes	**ORD 1120, ORD 3462,** Base ORD paragraph 1.5, Base ORD paragraph 1.5.1.2
KIP 5 STEP and TELEPORT	Yes	Annex H paragraph 2.5.2.11.2, **ORD 2401**
KIP 6 Joint Interconnection Service	Yes	**ORD 3754, ORD 3752**
KIP 7 DISN Service Delivery Point	Yes	Base ORD paragraph 5.3.1
KIP 8 Secure Enclave Service Point	Yes	**ORD 2395, ORD 3749**
KIP 9 Application to Database Server	Yes	**ORD 2326, ORD 3249, ORD 3752,** Annex H paragraph 2.5.1.3.2
KIP 10 Client Server	Yes	**ORD 2401,** Annex H paragraph 2.5.1.3.1.1.8
KIP 11 Application to COE/CCP	Yes	**ORD 2401,** Annex H paragraph 2.5.1.3.1.1.8
KIP12 End System to PKI	Yes	Base ORD paragraph 5.3.1, Base ORD paragraph 5.3.4,
KIP 13 Management system to (Integrated) Management Systems	Yes	**ORD 2326, ORD 3426**
KIP 14 Management Systems to Managed Systems	Yes	**ORD 3450**
KIP 15 IDM to Distribution Infrastructure	Yes	**ORD 2394, ORD 2413, ORD 3450**
KIP 16 Information Servers to IDM Infrastructure	Yes	**ORD 2392, ORD 2394, ORD 2413, ORD 3450**
KIP 17 Applications to Shared Data	Yes	**ORD 3158, ORD 3754, ORD 1064,** Annex A paragraph 1.3.1, Annex H paragraph 2.5.1.3.2, Annex H paragraph 2.5.1.3.1.9

The KIP definitions used came from www.kips.disa.mil

Team 7
IA Statement

Mission Statement**: Integrate IA compliance statement into ORD IAW appropriate DOD references.**

End State**: IA Compliance Statement complete to facilitate ORD staffing NLT 12 MAR 2004**

Team 7
IA Compliance

- **IA Team evaluation indicates we meet IA compliance**
- **Recommended statement of IA compliance:**
  This system is currently in full compliance with DOD Directive 8500.1 and DOD Instruction 8500.2, and with Phase 1 Definition of the DITSCAP (DOD Instruction 5200.40), and has made the required Information Assurance documentation available to the Joint Staff J-6 for review.
- **DITSCAP**
  - **Phase 1 SSAA documents are in draft form (one for TS, one for Secret and below).**

Today- IER Based I KPP

Current Interoperability KPP (I KPP) Centers around one DOD Architectural Operational View (OV-3) that contains Information Exchange Requirements (IER)

FY04 - FY 06 NET READY KPP

Net Centric Operations Warfare NCOW Reference Model Compliance

Integrated Architecture

***Applicable KIPs**

Information Assurance

Measurable and Testable Net-Ready KPP

FY06 NET READY KPP

- **Net Centric Operations Warfare (NCOW) Reference Model Compliance**
- **Integrated Architecture**
- **Key Interface Profiles (KIPs)**
- **Information Assurance**

Measurable and Testable Net-Ready KPP

FY06 and Beyond - NET READY

Net Ready approach centers on Central network:

•Focus on organizational contributions and consumption of information

•One-to-Network paradigm

CLASSIFICATION (U)

Complementary and Corresponding Systems

- **GIG BE**
- **JTRS**
- **GCCS**
- **NCES**
- **TCS**
- **Crypto Modernization**
- **Collaboration Tools**
- **Horizontal Fusion**

Questions?

BACKUPS

Enforcement

- **If a program/system fails to meet certification requirements, the J-6 will not validate the program and will recommend the program not proceed to the next milestone and that funding be withheld until compliance is achieved and the program/system is validated. The J-6 will make this recommendation to the USD (AT&L), USD (P), USD (C), ASD (NII), the MCEB, and the JROC. The J-6 will also request that the program/system be added to the DOD 4630.8, Interoperability Watch List (IWL).**